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M E T A P H Y S I C S.

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VOLUME SIXTH.

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# C O N T E N T S.

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ANTIENT



# A N T I E N T M E T A P H Y S I C S.

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## B O O K I.

### Of the Being of God.

#### C H A P. I.

*The subject of this volume, Theological;—to contain a demonstration of the Being and Attributes of God.—Dr Clarke's demonstration entirely Metaphysical:—The Author's demonstration to be drawn from the works of God.—The existence of every thing to be proved only by its operations:—In this way we know our own existence.—Des Cartes argument, drawn from the operation of his mind, not identical.—Our sensations the source of all our knowledge in this life.—By consciousness we are distinguished from the brute.—Without the existence of the material world, we could have no knowledge.—Absurdity of the Scepticism of Bishop Berkeley and Mr David Hume.*

**T**HIS last volume of my Metaphysics, probably the last volume of any kind that I shall publish, will be entirely Theological; which I think is a proper conclusion of Metaphysics: For Theology  
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gy is the fummit of Metaphyfsics, of all philofophy, and, indeed, of all human knowledge : And I hope the reader will confider the three immediate preceeding volumes, which contain the Hiftory of Man, the nobleft work of God on this earth, as not an improper introduction to the demonftration I am now to give of the being and attributes of God ; for I hold the hiftory and philofophy of man to be infeperably connected with Theology.

In this I fhall follow a method different from what has hitherto been followed. Not that I mean to derogate from the weight of the arguments ufed by other writers to prove the exiftence of Deity ; far lefs do I intend to refute them. But the principles of my philofophy, that is of the antient philofophy, lead me to inveftigate the fubject in a different manner, and to ufe proofs of a different kind ; beginning with the *being* of a God, which, in the natural order of things, ought to be confidered before his *attributes*.

The arguments which Dr Clarke ufes, to prove the being of a God, are chiefly of the metaphyfical kind. Whether they be all folid and conclufive, or whether the Doctör, not being learned in antient philofophy, could be a good metaphyfician, I fhall not here inquire. But I am of opinion, that neither the being of a God, nor his attributes, can be otherwife proved than by his works : And this our Scripture tells us ; for St. Paul, in the epiftle to the Romans \*, fays, ‘ That the ‘ invifible things of God, from the creation of the world, are clearly feen, being underftood by the things that are made.’ Nor, indeed, can we know the exiftence of any thing, not even our own exiftence, otherwife than by our actions and operations, and by what we do and what we fuffer ; for it is by reflection and the confcioufnefs of the operations of our minds and bodies, that we know our own exiftence, and that we have both mind and body. Des

Cartes,

\* Chap. I. v. 20.

Cartes, therefore, has argued very well, when he has said, ‘ *I think ; therefore I am :*’ Which by some is thought an identical proposition ; but it is truly an argument, by which he proves his own existence as an intellectual creature.

All our knowledge, in this state of our existence, proceeds from our sensations, that is from the actions of bodies upon our organs of sense ; the perceptions of which by the mind are its first operations in this life. The next operation of our minds is the consciousness of these perceptions ; and from these two sources is derived all our knowledge in this life, even the knowledge, as I have said, of our own existence. By this faculty of consciousness we are distinguished essentially from the Brute. For the brute has perceptions of sense as well as we : He also retains those perceptions in his Phantasia, as I have shown elsewhere\* ; and they serve all the purposes of his animal life. But as he cannot reason, he cannot draw from them the conclusion which we can draw, viz. that we exist : So that the brute does not know that he has either body or mind, or that he exists. This second source, therefore, of our knowledge, makes an essential difference betwixt us and the brutes, and may be said to constitute intellect, and to distinguish it from all the faculties of our animal nature : For it is the foundation not only of the knowledge of our own existence, but of all arts and sciences, and, in one word, of all our knowledge of every kind ; as it is from our knowing by consciousness that we have perceptions of sense, that we form ideas ; and from our ideas it is well known that all arts and sciences are derived †.

From this account that I have given of the origin of our knowledge in this life, it is evident, that without the material world, and

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the

\* Page 176 of the preceding vol.

† See what I have said of ideas in the same vol. book 3. chap. 10.



the operations of the bodies in it upon our senses, we could have had no knowledge at all, not even of our own existence. What, therefore, must we think of such philosophers, as Bishop Berkeley and Mr David Hume? The former denied that the material world had any real existence; and maintained that all the appearances in it, which affect so much both our minds and bodies, are mere illusions or phantasms. The Bishop, I am persuaded, maintained this strange hypothesis with the view of striking at the root of materialism: But he should have considered, that at the same time he struck at the root of all human knowledge, even the knowledge of our own existence. But our Scotch philosopher, Mr Hume, has gone still farther than the Bishop, and has maintained that we have no evidence of the existence of Mind any more than of Body, not even of our own minds; though he acknowledges that we have perceptions, and says, that we are a bundle of perceptions, but have no mind from which they proceed\*. This is carrying scepticism farther still than Bishop Berkeley has done, and farther, I believe, than ever it was carried before.

But the reader, I am persuaded, will think that it would be improper to spend more time in shewing the absurdity of these dreams, (these *aegri somnia*, as they may be called), proceeding all from the neglect of the antient philosophy, and from the vain endeavour to substitute something better in its place. I will therefore proceed in the great work I have undertaken of proving the Being and Attributes of God from his works; which I suppose to have a real existence; for otherwise I think there could be no proof of his Being and Attributes.

## CHAP.

\* See what I have said, of Mr Hume's Philosophy on this subject, in vol I. of this work, p. 418, and 419.



## C H A P. II.

*The existence of the Intellectual, Animal, Vegetable, and Elemental minds, proved by their operations.—Motion, the sole agent in the material world ;—necessary to treat of it at some length.—Reference to Vol. I. of this work, for the Author's observations on Aristotle's definition of Motion.—Inquiry into the cause of motion.—Three causes only :—1st, Body moving itself,—2d, Other bodies moving it,—3d, mind moving it.—The first, according to Sir Isaac Newton, produced by a vis insita. —Sir Isaac's doctrine of motion, defective in assigning a cause for its continuation, but not for its beginning. —Materialism, and a tendency to atheism, the consequence of Sir Isaac's vis insita.—Sir Isaac's ignorance of Antient Philosophy, the cause of his error —His philosophy the same with that of Epicurus ; —only not so complete, as Epicurus accounted both for the beginning and continuation of motion.—Reasons for these strictures in Sir Isaac's philosophy.—He compounded the motions of the Celestial Bodies, of projection and gravitation.—Projection, only produced by the operation of body upon body. — Gravitation, according to his doctrine, produced by other bodies.—He had no idea of motion by mind, which can move bodies in any direction ;—was ignorant of Aristotle's maxim, That nature does nothing unnecessary.—Materialism and the imputation of atheism unavoidable, according to his system of the motions of the Heavenly Bodies.—Of Derham's system of the Heavens : — All the motions there, according to him, to be ascribed to the immediate operation of Divinity :—Reasons for rejecting this hypothesis.—The Celestial Bodies moved by minds intellectual.—Comparison of the motions of the Celestial Bodies with motions on earth produced by projection and gravitation.—Proof both a priori and a posteriori,*  
*that*

*that Sir Isaac's doctrine has no foundation in nature :—1st, From the nature of motion ; 2dly, From fact and observation.—Sir Isaac did not ascribe his own motions to mind, but to ethers and subtle fluids.—The existence of these not proved.—That our bodies are moved by our minds, established by consciousness :—By analogy, we ascribe the motions of other animals to minds also, and even the motion of the vegetable, and of unorganised bodies.—Absurdity of Sir Isaac's doctrine of the cause of motion.—The phaenomenon of Attraction, and particularly of Elective Attraction and of the Loadstone, only to be accounted for from mind.—Observations on this antient doctrine, of mind being the original cause of all motion.—It is agreeable to Scripture.—Attraction and cohesion ascribed to mind by the Antients.—The motions by impulse, how to be ascribed to mind.—Sir Isaac admits, in this case, that the motion is carried on by the vis insita, and not by the impulse, which has ceased :—But he erred in holding this vis as belonging to body.—Agreement betwixt the Author's philosophy and that of Timaeus the Locrian.—Of the universal influence of Motion in the operations of nature and in those of our minds.—Though all motion be produced by minds, yet many of these minds not intelligent, but only directed by intelligence.—The elemental mind, which is incorporated, gives a better idea of such substances to vulgar apprehension, than the higher orders of mind.—Pythagoras first taught us to know the τα οντας οντα—The first philosophers of Greece materialists.—Anaxagoras the first who employed mind.—A mind moves each particular body.—All minds derived from God, the first cause of all.*

**I**N this material world, we know that not only Bodies exist, but Minds animating these bodies. That our own minds exist, we know, as I have said, by the most certain of all knowledge, consciousness : That the minds of other men exist, and that they are of the

the same kind with our minds, we know by their actions and operations. In the same manner we know that the minds of other animals exist, though of a kind very different from ours. We know also that even bodies that we call inanimate, are moved by mind, but by a mind still inferior to the animal mind, such as the vegetable and elemental minds; for I hope to prove by what follows in this work, that from mind proceeds ultimately all the motion in the universe.

And this leads me to speak of Motion, the sole agent, under the direction of intelligence, in all the operations of nature in the material world: For it not only moves bodies from place to place, but it alters their qualities, and adds to their bulk or takes from it; so that, as I have observed elsewhere \*, it belongs to three categories, or general ideas, *quality*, *quantity*, and *where*. And, as it is chiefly by the motion of bodies in this material world that the being as well as the attributes of God is proved, it is proper that I should treat of it at some length.

What Motion is in itself, abstracted from the bodies which it moves, I have elsewhere † explained at great length, in what I have said of Aristotle's definition of it. It will be sufficient here to observe, that it is a thing which has no fixed or permanent existence, but exists only in change, or passage from one thing to another; so that it is no wonder that Aristotle has laboured so much to give us a definition of a being of so singular a nature, and such as there is nothing like it in the universe.

What I am here to inquire concerning Motion, is, what the *cause* of it is, and how it is produced. And this cause must be either body moving itself; other bodies moving it; or, lastly, mind:

For

\* Vol. I. of this work, p. 21.

† Vol. I. p. 13. and 14

For these are all the causes by which motion can be produced. And I will only add, that the two causes last mentioned operate in very different manners: For body moves body only by an external application to it, either impelling or drawing it, whereas mind moves body by acting upon it internally.

I will begin with the simplest of these causes, that is Body moving itself; and which, according to the philosophy of Sir Isaac Newton, is the cause of body, once put in motion, continuing in motion: For he says, it continues *to move* (or, to speak more properly, *to be moved*) in a straight line and with an uniform velocity, by a *vis insita*, that is by a power inherent in the matter and essential to it. This he has laid down in his third definition, in his work, entitled, *Principia Mathematica Philosophiæ Naturalis*; and he has also laid it down as an axiom, calling it the first law of motion.

Sir Isaac, in this definition and axiom, has said nothing of the beginning of motion; but only speaks of the continuance of it after it is begun. But for my part I can make no distinction betwixt the two: for motion is still motion and the same motion whether beginning or going on; and when the iron, brought within a certain distance of the loadstone, begins to be moved towards it, that motion must be by a *vis insita* too, as well as the continuation of the motion of body after it is once set in motion by the impulse, I shall suppose, of another body. Now, to maintain that body moves itself when it either begins or continues motion, is, I think, downright materialism; as it takes from mind that essential quality of moving body, by which all the operations of nature are carried on. And here we may observe, that Sir Isaac has carried the doctrine of materialism farther than any other author, antient or modern: For he has laid it down as an axiom; and what is more, he has given to body not only the power of moving itself, but intelligence also; by which it

it conducts the motion ; for he has said, both in his definition and in his axiom above mentioned, that body has a power not only of moving itself, but of doing it in a straight line, and with the same velocity ; that is, as he expresses it, *movendi uniformiter in directum*. Now, nothing can be done in a certain way, and uniformly in that way, without intelligence : So that in this respect, he gives more power of motion to body, than our animal mind possesses ; for it can only move the body, but cannot direct its motions, which must be done by our rational or intellectual mind. Now, this is completing the system of materialism : And, indeed, I can give to such materialism no other name than that of atheism ; since it gives a power to body, by which motion is not only carried on, but in the most regular and orderly manner. At the same time, I am far from thinking that Sir Isaac was an atheist. But by attempting to philosophise without the assistance of the Antients, he went on without knowing what he was doing, or where he was to end. It was one great lesson of antient philosophy, and which, I observe, is much inculcated by Plato, ‘ To know from what being given what follows.’ Now, if Sir Isaac had learned that lesson, he would have known, that giving such a power of motion to body, as he has given, led directly to atheism.

And here it may be observed, that Sir Isaac’s notion of body moving itself agrees perfectly with the philosophy of Epicurus ; and, indeed, that body moves itself is the foundation of Epicurus’s whole philosophy. For he has said in express terms, as Lucretius has informed us, that his atoms, which are, according to his philosophy, the principles of all bodies, move themselves.

*Prima moventur enim per se primordia rerum.*

Lucret. Lib. 2. v. 132.

And it is by the

*Concurfus, motus, positura, ordo, figura,*

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of.



of these atoms, that every thing in the universe, according to Epicurus, is produced. His system, therefore, of materialism is the same in its principles with Sir Isaac's ; but, I think, more perfect, as he accounts also for the beginning of motion, and not for the continuation of it only, as Sir Isaac does.

I would not have been so severe upon Sir Isaac's doctrine of motion, nor have asserted that it was downright materialism and had a tendency to atheism, if I could have discovered that in the system he has given us of the Heavens, he had shown that he believed that the Celestial bodies were moved by mind. But that is not the case : For the motion of those bodies, according to him, is compounded of two motions, projection and gravitation ; which two, together, produce their motions round the sun. Now, as to projection, we cannot conceive that mind should project any body ; for as mind moves body internally, it cannot be in the way of projection, which can only be by one body impelling another. It is evident, therefore, that so far the motion of the Celestial Bodies is not by mind, but by impulse of other bodies : And as that is the only cause of motion, that is perceived by the sense, it appears to me that Sir Isaac had no notion of motion being produced in any other way.

As to the other cause of the motion of the Celestial Bodies, gravitation, Sir Isaac has given an account of it in a passage upon which I have made some observations elsewhere \*. He has there assigned several causes for it, but has not so much as mentioned mind as one of the causes ; from which I have inferred, and, I think, not without reason, that he had not so much as the idea of Mind moving Body. One of the causes which he assigns for gravitation is, *Bodies floating in a medium corporeal or incorporeal, and impelling one another*. This those may understand, who have studied, more than I have done, the philosophy of Sir Isaac Newton : But, for my part, I

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\* Vol. 4. p. 371.

can understand nothing by it, except that Sir Isaac supposes gravitation to be produced by impulse of body, as well as the motion of projection; which further confirms what I have said, that he understood that cause of motion, which is perceived by the sense. to be the only cause. And that he had no idea of mind being the cause of motion there is a further proof, besides what I have mentioned, from his making the planetary motion to be compounded of the two motions of projection and gravitation: For if he had known that mind could move body, he would have known at the same time that it could move it in any direction, either in a straight line or a curve; and so he would have known that it was quite unnecessary to compound the planetary motion, as mind, and one mind only, could move them round the sun, or give them any other motion, such as that upon their own axis. In this way, the planetary motion would be perfectly simple, and such as we must suppose all the motions of nature to be, when they can be performed in that way; for there is nothing more true than what Aristotle has said, that as nature does every thing that is necessary or proper, so she does nothing that is unnecessary. It appears, therefore, that if Sir Isaac had understood the nature of motion by mind, he would have made his system of the motion of the Heavenly Bodies much more simple, and, consequently, more perfect. And in this way he would have avoided materialism, or the imputation of atheism, which could not have been charged against him; but which, I think, is unavoidable, according to the account that he gives of the motion of the Celestial Bodies. For if these motions, so wonderful and so perfectly regular and orderly, and agreeing so well with one another, are produced by material causes, we must, I think, suppose, that the whole system of nature, both in heaven and earth, is produced in the same way; so that the whole material world is not produced or governed by God, but by Body moving itself and moving other bodies.

There is an account given us by an English clergyman, of the name of Derham, of the System of the Heavens, and of the motions of the Celestial Bodies; all which he ascribes to God, and represents them to be, as they truly are, most evident proofs both of the existence of Deity, and of his wisdom and goodness. But he appears to have supposed, that these motions were the immediate production of divinity, and that God himself moved the several Heavenly Bodies. This he could not have supposed, if he had understood the way in which mind moves body, not by external impulse, as body moves body, but internally by incorporating itself with body. Now, I think it would be impious to suppose, that the deity mixed so much with matter as to incorporate himself with body. We must, therefore, conclude, that the deity performs the motions in the heavens, in the same manner that he moves bodies here on earth, that is, as I have said, by minds, which proceed from the third person of the trinity, and give life and motion to every thing in the universe. The minds, that only move the bodies here on earth, are, as I have observed, of the lowest order. But as the Celestial Bodies are of an order of beings much superior to the bodies here on earth, and perform motions much more wonderful, we must suppose that the minds animating them are much superior to the minds animating the bodies here on earth. And, I think, we ought to believe that they not only have a motive power, such as those minds of the lowest kind, which move bodies here on earth, but only move them, having neither sensation nor intelligence, but that they are intellectual minds, which not only move these Celestial Bodies, but govern their motions. And so far I agree with the Antients, who made the minds animating the Celestial Bodies, superior minds, worthy of inhabiting such bodies. But I do not make Gods of them, as they made them, but only ministers to the great God, and ministers of a superior rank: And indeed, without such superior minds animating these Bodies, I cannot conceive how their various motions should

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be conducted with such perfect order and regularity; nor do I think it proper to suppose that these motions should be immediately directed by the supreme God, any more than that they should be immediately performed by him.

And here we may observe the difference betwixt the motions of the Celestial Bodies and of those bodies here on earth which we call inanimate, such as earth and stones and minerals. These have a mind in them that moves them, which I call the elemental mind, but which only moves them, having neither sensation nor intellect. And this mind moves them only in two ways, either towards the center of the earth, that is by gravitation, or in the direction in which they are impelled by other bodies; all the other motions they perform being directed by the intelligence of man. But the motions of the Celestial Bodies are much more various, changing their direction every instant, and performed in spaces of infinitely greater extent and compass. And as they are likewise performed with very much greater order and regularity than the motions directed by the intelligence of man here below, they must be supposed to be governed by intelligences very much superior to the human, but not immediately by God himself.

Thus I have explained the motions of the Celestial Bodies, and have shown, that, as motion can be produced only in two ways, either by external impulse of body, or by the internal operation of mind in the body which is moved, the motion of the Celestial Bodies is produced only by mind: And in this manner I think I have given the true philosophy of these motions, which, as our Scripture tells us, declare the glory of the Lord; and, indeed, the Heavens are the most magnificent exhibition of that glory, which can be imagined.

Having

Having thus shown the nature of Sir Isaac's doctrine of motion, and to what consequences it tends, I will now prove that it has no foundation in nature; and this I think may be proved both *a priori*, from the nature of motion, and from fact and observation.

And, *first*, as to the nature of motion; wherever any thing is moved, there must be both action and passion in the case, that is, there must be something that moves, or acts, and something that is moved, that is suffers or is passive; for action and passion are relatives. Now, there can be no relation except betwixt two things at least; for we cannot conceive the same thing as relating to itself. And, therefore, the same thing cannot, at the same time and in the same respect, both act and suffer: So that the same body cannot both *move* and *be moved* at the same time; and, therefore, when we say that an animal moves itself, we must not understand that the body of the animal moves itself, but that it is moved by the mind of the animal.

I will here say no more upon this argument, from the nature of the thing, which, I think, is demonstrative; but I will refer the reader to what I have said at some length in the first Vol. of this Work, Book 2. Chap. 3.—where I have said a great deal of the Category of Relation, and proved, I think, most clearly, that it can only subsist betwixt two different things; and have illustrated it by examples\*.

But action and passion, such as *moving* and *being moved*, are not only relatives, but are opposites; so that it is still more inconceivable how they should exist in the same subject at the same time: For though contraries, such as heat and cold, may exist, and often do exist, in the same subject, it is at different times; but it is absolutely inconceivable

\* Page 69.

conceivable that they should both exist at the same time in the same subject.

As this argument, from the nature of *relatives* and of *opposites*, may be thought by some of my readers too metaphysical, I have, in the chapter above quoted from the first vol. of this work, p. 71. given a proof from fact and observation, which, I think, must convince every reader, though he be not a philosopher: For though he may not believe that other motions, which he sees on this earth, are produced by mind, yet I think he cannot doubt that the motions of his own body are produced by his own mind; and I have given, in the passage last quoted, an example of it from a very simple motion, viz. that of a man raising up his arm. Now, he must know, by the most certain of all knowledge, consciousness, that the arm does not move itself, but is moved by his mind willing that it should be so moved: And, accordingly, it is so moved, though, by the law of gravitation, it should, like other bodies, be moved downward towards the earth.

Sir Isaac Newton, I know, carried his system, of all bodies being moved either by themselves or by other bodies impelling them, so far, that he maintained, as I have elsewhere observed, that our bodies are not moved by our mind, but by ethers and fluids, or by a *spiritus subtilissimus*, as he calls it in one passage\*. But here, I think, his philosophy is exceedingly defective: For, in the *first* place, he does not prove that these ethers or subtle fluids do exist. *2dly*, If he had proved their existence, he should have also proved that they were, by some cause or another, put in motion; for no body can move another that is not first moved itself. So that, in both these respects, Sir Isaac's philosophy of motion is exceedingly defective.

But

\* See his words quoted in vol. I. p. 275.—where he says that the voluntary motion of animals is produced by a *most subtle spirit*.

But even supposing it to be true, that our bodies are moved by ethers or subtile fluids, Sir Isaac so far agrees with my doctrine of motion, that he thinks our bodies do not move themselves. We differ, however, as to the cause of their motions; for, while I derive them from mind, he maintains, as I have said, that they are moved by other bodies, such as ethers and subtile fluids, operating upon them. Now, this confirms me more and more in the observation I have made, that Sir Isaac had not so much as the idea of body being moved by mind, otherwise he could not have had the least doubt, that our minds and bodies being so intimately connected, the motion of our bodies was produced by our minds. I must, therefore, hold, that he believed that no other body is moved by mind, but that all the motions of the universe are carried on by body moving itself or by being moved by the impulse of other bodies.

Sir Isaac maintains, that these ethers and fluids not only move our bodies, but produce our sensations\*. This, I think, is the most unintelligible part of Sir Isaac's philosophy of motion; and it proves to me, that Sir Isaac did not so much as know what *sensation* is; for if he had known that it is produced by the action of external objects upon our senses, and that it is the perception by the mind of that action, he never could have believed that these ethers and subtile fluids could have produced our sensations: For though, according to Sir Isaac's doctrine, they produce the motion of our bodies, yet the action by which they produce that motion is certainly not perceived by any of our senses, and therefore can never give to the mind that perception which we call *sensation*.

Sir Isaac, in order to complete his system of materialism, should have

\* In this passage of Sir Isaac's works, which is referred to in the preceding page, he says, that not only animal motions, but sensations, are produced by ethers and subtile fluids.

have derived not only our sensations, but our ideas, from his ethers and fluids; and then his system of materialism would have been as complete as that of a Frenchman, the Abbé Prade, who derives the whole operations of our mind from matter and motion, in a work which he has entitled, *L'Homme Machine*. But though Sir Isaac has not said, in so many words, that our ideas, as well as our sensations, are derived from ethers and fluids, he has in effect maintained that doctrine: For if it be true, that these ethers and fluids produce our sensations, it follows of necessary consequence, that they produce our ideas, which all originate from our sensations; the first ideas we form being of objects of sense\*, the perceptions of which are what we call sensations. And as ideas are the foundation of arts and sciences, and of our whole knowledge in this life, it follows, of necessary consequence, that these ethers and fluids produce all our knowledge, and all the operations of the mind necessary for attaining knowledge; which makes the system of materialism perfectly complete.

As to the motion of our own bodies by our own minds, I think we have the clearest proof of it that we can have of any thing; and that is consciousness, by which we know that our bodies are moved by our minds, and in a very wonderful manner, not immediately and directly, but by the intervention of our animal mind; for our intellectual mind does not operate immediately and directly upon our bodies, but only wills that the animal mind should move them; and, accordingly, that mind does so by the means of muscles, sinews, and bones: So that by a single act of the will, this complicated machine, as I have elsewhere observed†, is set a going, and made to move our bodies. Now, I cannot believe that consciousness, the surest evidence we have of any thing, misguides me in this case, but I must hold that my body is truly moved by my mind.

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\* See Vol. V. of this work, p. 168.

† Ibid. p. 108.



Having thus begun at home, and established that the motion of my body is produced by my mind, I proceed, by analogy, to account for the motions of other bodies. And, in the *first* place, I must suppose that the motions of other men's bodies, as they are perfectly of the same kind with the motions of my own body, are produced by a cause of the same kind. And this analogy goes to the motions of all other animals, and even of vegetables; I mean those motions of vegetables by which they grow and are nourished, produce leaves, flowers, and fruits, and propagate their kind: For all motion, as I have shown\*, is produced in one of three ways; either by the body moving itself; by being moved by the impulse of other bodies; or, lastly, by mind. And as I have shown, and, I think, demonstrated, that body cannot move itself, and as it is impossible to suppose, nor, indeed, has it been supposed by any man, that the vegetable is moved by the impulse of other bodies, of which we neither know the existence, nor how they are themselves moved so as to be able to move the vegetable, I must conclude that the vegetable is moved in the same manner as my body is, viz. by mind.

But this analogy goes further, even to bodies unorganized, such as earth, stones, and minerals: For, as they do not move themselves any more than bodies organized, and as no account has been given, or attempted to be given, of other bodies, which, being first moved themselves, put unorganized bodies in motion, I must conclude, that they, as well as other bodies, are moved by mind; and by that mind, which I call the *elemental mind*, and which is so universal in nature (and, therefore, is called by Aristotle by the name of *nature*†) that all bodies of every kind, organized or unorganized, animal or vegetable, are moved by it. And thus the whole motion of the universe is produced by mind, if not immediately at least ultimately: For though one body, no doubt, may be moved by the impulse of

\* Page 7.

† See vol. I. p. 231.

of another body, yet it is impossible to suppose an infinite succession of bodies impelling one another; as then the causes of motion would be infinite, and, consequently, there would be no cause at all that could be assigned for the motion of any body.

But Sir Isaac appears not to have had so much as the idea of motion by mind, as, I think, I have shown from the account he has given of the cause of attraction or gravitation \*, where, among the various causes that he assigns for this phenomenon, which is the grand principle of his philosophy, he does not so much as mention *mind*, though he is reduced to the necessity of accounting for it from a very extraordinary cause, which to me is quite unintelligible †. The cause I mean is “*ethers, airs, or some medium corporeal or incorporeal, impelling the bodies, swimming in it, towards one another.*” Now, those who are more versant in his philosophy than I am may understand how bodies can swim in a *medium* incorporeal, and be impelled by that *medium* towards one another; but to me it is quite unintelligible. I will only say further upon this subject, that this phenomenon of attraction, which is the grand principle of Sir Isaac’s astronomy, is, I think, of itself, demonstrative evidence of motion’s being produced by mind: For it is impossible to conceive that bodies, sometimes at the greatest distance, can tend towards one another, by their action upon one another; as we are as sure, as we can be of any thing perceived by our senses, that body can only act upon body by contact. And this makes Sir Isaac’s doctrine of the motion of the Tides as unintelligible as his doctrine of attraction: For he says, that the flux and reflux of the sea arises from the action of the sun and the moon ‡. Now, how can we conceive that those bodies, so far removed from the sea, should act upon it? though we can very well conceive that the tides can be moved, like other bodies, by mind, and in conformity with the

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motions

\* Vol. IV. p. 371.

† See on this subject, p. 10. of this vol.

‡ Phil. Nat. prop. 24. theorem, 19.



motions of the Celestial Bodies, which are also produced by mind. But, becaufe two bodies are moved in perfect conformity with one another, we are thence to infer, not that the one is the caufe of the motion of the other, but that there is some superior caufe which directs the motions of both.

There is one kind of attraCTION which is perceived in small chemical bodies, by which one body attracts another and incorporates with it, but, if a third body be presented to it, which it likes better, it relinquishes the first body with which it had joined itself, and incorporates with that third body; from whence this attraction is very properly called *elective attraction*. This it is impossible to account for otherwife than from the operation of mind.—I will only add upon this subject of *attraction*, that Sir Isaac, by supposing that mind is not one of the causes of the motion of body, appears to give up that fundamental principle of his astronomy, *attraction*.

I will conclude this chapter with some observations upon this antient doctrine, of mind being mediately or immediately the caufe of motion. It is perfectly agreeable to the doctrine of our Scripture, by which we are taught that *God is in all things*, and that *in him we ourselves live, move, and have our being*; so that he moves all bodies, and is, therefore, the author of all the motions in the heavens and in the earth, by which the whole business of nature is carried on. Matter, therefore, according to the doctrine of antient philosophy, is merely passive, and is no more than the subject upon which mind, the only active principle in the universe, acts. And this principle the antients carried so far as to maintain, that mind not only made bodies attract one another and join together, but, when they were joined, made them cohere; for cohesion, they said, was from a principle of action, which does not belong to body but to mind

mind only\*. Nor, indeed, when we consider that by mind bodies are made to go together and to join, as in the case of elective attraction, should we wonder, that by the same power of mind they should cohere and be kept together when they are joined.

This philosophy, which teaches us that all bodies, unorganized as well as organized, have in them an immaterial principle, or mind, which moves them, accounts for all the motions in the universe, which cannot be otherwise accounted for; and, among others, for the motion of bodies impelled by other bodies, or of projectiles, which, after the impulse has ceased, continue their motion for some time. That the motion is not continued by the impulse that has ceased, I think is certain; for there must be a present cause acting upon the body, otherwise it could not continue to be moved: And so far Sir Isaac is in the right, that he does not suppose that the motion is continued by the impulse which has ceased, but says that it is carried on by a *vis insita*, or power inherent in the body. But his error is in supposing that it is any power belonging to body that carries on the motion; for, I think, I have shown, that it is not body, nor any power belonging to body, but that mind I call the elemental mind, by which bodies are moved up, or down, or in that direction in which they are impelled.

And here we may observe how well this philosophy, of mind being the principle of motion in all bodies, agrees with that most ancient and valuable piece of philosophy, the treatise of Timaeus the Locrian,

\* See what I have said upon this subject in vol. I. of this work, p. 86. where I have shown that, without this power of mind, there could be no animal or vegetable, rock or mountain, or any thing elevated upon the face of the earth; for it is a power which overcomes even gravitation, making the inferior parts of any body adhere to the superior, when otherwise, by the power of gravitation, they would fall down towards the centre, and be spread into an horizontal surface like a fluid.

Locrian, *De Anima Mundi* \*; for he says, that all bodies are composed of *matter* and *ideas*. Now, these ideas must proceed from the supreme mind; for they form the body out of rude matter, and make it a body of a certain species, animal, vegetable, or mineral, and at the same time give it motion. And this makes this work of Timæus a most valuable piece of natural philosophy, as it accounts for that composition of matter, which forms the several bodies here on earth, so different in their kinds, and which we cannot suppose to be the production of mere matter, which, as I have shown, is merely passive, and has no principle of action or motion in it. It accounts, at the same time, for that motion which we see in all bodies, organized or unorganized; so that the same mind, which forms them, also moves them. And it proves, that, in the formation of things in this material world, mind and body were necessarily connected, and have continued so ever since; so that in every body there is a mind. And thus it appears, that the ideas we form of things are not mere fictions or creations of our mind, but have a real existence in nature, and make every thing what it truly is, and give it motion and animation.

And here I think it will not be improper to observe the influence of motion in the system of the universe. It is the agent in all the operations of nature, either in the heavens or in the earth; for by motion are produced the succession of day and night and of seasons, the generation of animals and vegetables, their growth and their nourishment. And there is another operation of it, not commonly observed, which is, that it is the origin of all the operations of our minds, and of all the knowledge we acquire in this life, which must all begin with sensations, or the perceptions of sense; for, as I have said in more than one place of this work, our senses are the first  
inlets

\* This treatise is printed with the works of Plato, and annexed to a Dialogue of his entitled, *The Timæus*.

inlets of our knowledge. Now, as our sensations are produced by motion, that is by the action of the material objects round us upon our organs of sense, and as of our sensations we form our ideas, (the first of which are of particular objects of sense, as I have elsewhere shown \*, from our ideas arises all our knowledge. Let none of my readers, however, believe, that I maintain, that matter or body is the cause of our ideas or knowledge: For it must be considered that those bodies, which act upon our organs of sense, and, in that way, produce our sensations, are themselves moved by mind; so that mind is ultimately the cause even of our perceptions of sense, and by consequence of all our knowledge in this life.

But though mind gives motion to all the bodies here on earth, and though their motions are carried on in the most regular and orderly manner, and must be directed by intelligence, we are not to suppose that the intelligence belongs to the minds which animate and move these bodies, but that those minds, though they have not intelligence in themselves, are governed and directed by that supreme intelligence which governs every thing in this universe. The mind, therefore, that moves these bodies is of the lowest kind: For it has neither sensation nor intelligence, nor has it even the power of the vegetable mind, which performs a great many motions of different kinds; but it simply moves the body, by one uniform motion, either up or down, or in the line in which the body is impelled. But this mind, though the lowest of all minds, is an immaterial substance, and may give us an idea of the nature of such substances, more suitable, at least, to vulgar apprehension, than the ideas of those immaterial substances which think and reason; for this immaterial substance

\* Vol. V. p. 168. where I have shown, that general ideas must necessarily proceed from particular; and that as all our knowledge, in this life, comes originally from our senses, which perceive only particular or individual things, our first ideas must necessarily be of such things.

stance is incorporated with the body which it moves. Now, we can have no conception of one body being so incorporated with another body, as to act upon it and move it, and yet to make but one substance with that other body, and to occupy the same place. We understand very well, that one body, by external impulse upon another, should move it; but we never can conceive how one body should enter into another, and from within produce its motion in the way that mind moves body. What, therefore, thus incorporates with body, moves it, and, according to the doctrine of Timæus, gives it its form, and makes it a body of a particular species, cannot be body, but must be a substance of a quite different kind, that is an immaterial substance. Further, we cannot conceive that body can move body otherwise than by impelling or drawing it. Now, it is impossible to conceive that the internal principle, which moves body, can do it in either of these ways.

But though, in this way, the distinction betwixt body and mind be clearly apprehended by the philosopher, yet it is not to be wondered that the vulgar, who are conversant with body only, and perceive things only by their senses, should not form the idea of an immaterial substance. Even the first philosophers of Greece appear not to have formed that idea; and it was Pythagoras, as we are informed by the authors of his life, Porphyry and his scholar Jamblichus, who first taught the Greeks to know the *το οὐτως ον*, that is what has a real existence, and is not like material things, of which they said, *οὐκ ἐστὶ ἀλλὰ γίνεται*, that is, *what cannot be said truly to exist, but is always becoming something that it was not before*: This is the case of body, which is not a moment the same thing, but is always changing; by which I mean *not changing its place but its substance*. We are, therefore, not to wonder if the first philosophers of Greece were, as Aristotle tells us, materialists; and that, though Pythagoras brought into *Magna Græcia* the doctrine of immaterial substances,



substances, Anaxagoras, as he tells us, was the first man in Greece who employed mind in the formation of the universe; whereas, the philosophers before him produced every thing from one or other or all of the four elements. Every thing, therefore, according to those philosophers, was material, and their Gods among other things; for they were all embodied, and had all the appetites, desires, and passions belonging to an embodied substance. Of these Gods Cicero has given us a long catalogue in his third book, *De Natura Deorum*: And in his second book he has let us know, that the Stoics made the *Mundus, or material world*, their God; which, they said, had every perfection, and intelligence among the rest. But the intelligence, which is very evident in the works of nature, they did not distinguish from that supreme intelligence, which has given the material world all the intelligence which appears in it; and they seem to have supposed that the matter, which composes the material world, had intelligence in itself: So that even those philosophers in Greece, who were in such high estimation, do not appear to have made the distinction betwixt matter and mind.

Thus, I think, I have shown, that all motion proceeds from mind, mediately or immediately; and as this power of moving is an attribute of all mind, whereas, other powers, such as those of thinking and reasoning, belong to certain minds only, I think I have very properly made it the general definition of mind\*.

In this manner I hope I have shown most clearly, that the bodies in this material world must be moved by mind: And as body is only moved by mind incorporated with it, it is impossible that all the bodies of the material world can be moved by one mind; so that there must be a mind moving each separate body. Now, these several minds must proceed from one general or universal mind; for the or-

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\* Vol. I. p. 7.



der, we observe in the universe, is, that Particulars proceed from Generals. There must, therefore, be one universal mind, from which the particular minds, which animate such an infinite number of bodies, proceed; and this universal mind is God, the author of all the motions in the universe: And as all these motions are regular and orderly, forming altogether a system, as I shall show in the sequel, which can be the work of intelligence only, it is evident, that the author of all these motions must be a being not only intelligent, but of supreme intelligence. But, before I go to the proof of this, I will add one chapter more upon a subject of such consequence in the system of the universe, as motion is; and in this chapter I will endeavour to account how Sir Isaac's doctrine of motion comes to be so imperfect and to lead to such bad consequences.

C H A P.

## C H A P. III.

*Sir Isaac Newton a man of Science but no Philosopher.—The same the case of Euclid:—This evident from his not distinguishing Magnitude, the subject of Geometry, from Number, the subject of Arithmetic;—also from his definition of a Point, in which he has omitted the essential difference betwixt a Point and a Monade, laid down by Aristotle, that a Point has a place, which a Monade has not.—Though ignorant of the Philosophy of the Sciences of Arithmetic and Geometry, he treats the Sciences themselves very accurately.—The same the case of Sir Isaac Newton with respect to Astronomy:—He has explained the laws of the Celestial Motions most accurately, but did not know the Philosophy of Motion nor its cause.—The knowledge of this the height of Philosophy and even of Theology, God being the original author of all the motions in the system of the Universe.—Sir Isaac's ignorance of Philosophy led him to ascribe all Motion to the impulse of Body.*

SIR Isaac was, no doubt, a very good mathematician and a great astronomer. But mathematics and astronomy are sciences different from philosophy: And I do not believe that Sir Isaac was learned in philosophy; nor did I ever hear that he had studied it, or had read any book upon the subject. Now, in philosophy are contained the general and fundamental principles of all sciences; and therefore I call it the science of sciences. A man, therefore, may be learned in any of the inferior sciences, but if he be not a philosopher, he will not know the principles from which that science is derived. Of this Euclid is a remarkable example. He understood both

geometry and arithmetic, and has given us an excellent work upon each of these sciences. But he did not know the philosophy of either of them, not even what the subject of them is: At least he has not told us that the subject of both of them is *quantity*; and that quantity is that which is divisible into parts, which parts are either continuous, or discrete, that is separated. If the parts are continuous, they make what is called *magnitude*, which is the subject of geometry; if they are discrete, they make what is called *number*, which is the subject of *arithmetic*. Now, a man, who does not know to what category the science he treats belongs, may be said, in a philosophical sense, not to know what he treats. Euclid, therefore, not knowing that both the sciences belong to the Category, or general idea of Quantity, and not being able to distinguish the two specieses of that quantity, may be said not to have known, philosophically, what either of the sciences is. And the definition he has given us of what he makes to be the first principle of geometry, viz. a *point*, shows that he was no philosopher; for he says, 'That a Point 'is that which has no parts or magnitude.' Now, that is the definition of an immaterial substance, not of a point, which is certainly a material substance, being the extremity of a line, as in an after definition he tells us it is. But, besides this connection which it has with a line, it has an existence by itself: For, as Aristotle has observed, it has a *place*, and, consequently, must be *matter* or *body*; whereas, as the same author tells us, a monade has no place. And this he makes to be the difference betwixt the two sciences, but which Euclid does not appear to have known; though the difference be so great, that geometry applies only to *matter* or *body*, whereas, arithmetic applies to all things, material or immaterial, substance or quality; so that arithmetic, though it be so common a science, is the most universal and most comprehensive of all sciences, as it applies to every thing that exists. But though Euclid seems not to have been able to discriminate these two sciences of arithmetic and geometry,

metry, he understood the sciences themselves and the practice of them, and has treated of both very accurately. In like manner, Sir Isaac Newton has treated of the motions of the Celestial Bodies, and has explained, most accurately, by what laws and rules these motions are conducted. But he did not understand the philosophy of Motion: For he could not define it as Aristotle has done\*; nor did he know that it is a most wonderful being, (if it can be called a being), having no fixed or permanent existence, nor continuing the same for two moments together, but existing only in constant change and succession. But what is worse, he did not know what is the cause of it and produces it, whether mind or body. Now, to know this, is an important point of philosophy, and of the highest philosophy, that is theology: For, unless we know that mind is ultimately the cause of all motion in the universe, and that all bodies are moved by mind mediately or immediately, we cannot believe that God is the author of this universe, the whole business of which is carried on by motion; every body being moved one way or another, not immediately by the supreme mind, which it would be impious to suppose incorporated with body, (in which way only mind can move body,) but by particular minds of number infinite, all proceeding from him, and moving, one way or another, every body in the universe; and as all their motions are directed by supreme intelligence, or by the ministers of that intelligence, the business of nature is carried on in the most regular and orderly manner, and so as to make a most wonderful system of the whole. But Sir Isaac, not being a philosopher, did not conceive how mind could move body, nor how body could be at all moved otherwise than in the way we perceive by our senses, that is by the impulse of other bodies.

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\* See vol. I. of this work, p. 13 &amp; 14.

As I have said so much of the motion of body by mind, I think it will not be improper to subjoin some observations upon our progress from the knowledge of body, with which all our knowledge in this life must begin, to the knowledge of mind, which is the subject of science; and from the knowledge of inferior minds to that of superior, and even of the supreme, as far as our limited capacities can comprehend. But, before we can arrive at this highest of all sciences, we must study other sciences, beginning with that which is most natural to us, being so much connected as we are with body; I mean natural philosophy, as it is very properly called. Upon this subject a great deal has been written in modern times, and many experiments made; and yet I am not sure that any of our modern philosophers know what natural philosophy is, or what is the subject of it. The generality of them, if not all, believe as Sir Isaac Newton did, that body only is the subject of this philosophy, which does no more than explain how body operates upon body, and produces all those motions which we see here on earth: Whereas, I say, and think I have proved, that all the motions, we perceive here on earth, proceed originally from mind; so that natural philosophy does no more than explain the operations of mind in the bodies that we see here on earth. These bodies are of three kinds: *First*, Bodies unorganized, such as earth, stones, and minerals, and which are commonly called inanimate; though I hold that there is a mind of one kind or another in every body. For such is the union of all things in this universe, that mind and body are never separated: And it is fit it should be so, as body is by its nature merely passive, and can do nothing without mind, the only active power in the universe; so that body, unless it were incorporated with mind, could be of no use in the creation:—*Secondly*, Vegetables, whose growth, nourishment, and propagation of their kind, must be, as I have shown, the operation of mind:—And, *lastly*, Animals, which, it is allowed by every body, have in them animal life, or that mind which is called  
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the animal mind. And, accordingly, natural philosophy treats of all these three substances, and of the motions in them produced by mind.

The next step, in the progress of our knowledge, is to animals intelligent. Of these there is, in this earth, only one, viz. man; and it is only by the study of him that we can have any knowledge of what intelligence is: And, as we are of that species ourselves, we may, by the study of ourselves, acquire what is the most perfect knowledge here below. It was, therefore, not without reason, that, upon one of the gates of the temple of Apollo at Delphi, the precept, *know thyself*, was inscribed.

Under this science of intellect is comprehended, *first*, morals, by which man learns to govern himself; and, *secondly*, the political science, by which he learns to govern a state.

But there is still something wanting to enable us to ascend to the highest philosophy, I mean Theology; and that is the knowledge of an intellectual mind, not embodied or incorporated with matter: For we can have no knowledge of superior intelligences, and far less of the supreme intelligence, unless we have formed the idea of a pure immaterial substance. But, even from the study of ourselves, we may form the idea of such a substance: For man contains in himself the intellectual, the animal, the vegetable minds, and that mind, which is common to all bodies, and which I call the elemental mind, by which bodies are moved up or down, or in the direction in which they are impelled, and, joined to all these minds, body. In short, man is an epitome of every thing in nature, and therefore is very properly called a microcosm or *little world*: So that the study of him may be said to be the study of Nature and of the great world; and particularly of that which is principal, both in the great world and in his little world, that is intelligence, by which we learn every thing else:

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For, by the study of our own intellectual mind, we must know that it is a substance quite distinct from our body, and so much unconnected with our body in its actions and operations, that, in these, it is impeded by our body; and, in this respect, it is perfectly different from our animal, vegetable, and elemental minds, which are so connected with body, that they cannot be conceived to act or exist without it.

In this way, I think, it is clearly proved, that our intellectual mind, though inclosed in our body in this life, is a substance quite distinct from our body; and, in this way, from the most certain of all knowledge, I mean the knowledge of ourselves, we form the idea of an immaterial substance, and so are fitted for the study of superior intelligences, and even of the supreme intelligence, as far as we can comprehend it. And thus we are prepared for the study of the highest part of philosophy and of human knowledge, I mean Theology.

Upon the subject of the progress of the human mind to philosophy, I would recommend to the reader a treatise of a philosopher of the Alexandrian school, Ammonius Hermeias, upon the subject of *The Five Words* of Porphyry, another philosopher of that school, viz. Genus, Species, Difference, Peculiar, and Accidental; which are general ideas comprehending every thing belonging to philosophy. In this treatise, Ammonius has given the best account, I ever read, of the nature of philosophy, and of the sciences proper to prepare us for the study of it. Among other things he has observed, that, from the study of natural philosophy, which treats only of mind incorporated with body, we ought not to proceed immediately and directly to that higher philosophy, which considers mind as entirely abstracted from body; for, says he, that is too great a step to make at once. And, therefore, before we study mind of that kind, he

he recommends the science of Geometry; the subject of which is Lines and Figures, abstracted from body, but not conceived to exist without body like the subjects of Metaphysics or Theology. The demonstrations, however, concerning them are not considered as of any particular Lines or Figures, but of Lines and Figures in general abstracted from all body. And what makes this science much more easily understood than any metaphysical science, is, that the subjects of its demonstrations are represented to the mind by figures upon paper: So that we learn this science not by words only, but by the very things themselves represented to our eyes. And, therefore, I think geometry is a very proper transition from natural philosophy, which considers mind only in bodies, to subjects of intellect which necessarily exist in body, but are abstracted from it and considered as pure intellectual substances; for the demonstrations in geometry must not be applied to the line or figure upon the paper, but to every Line or Figure of the same kind; so that the subjects of geometry may be considered as immaterial substances, not existing in any matter.

## C H A P. IV.

*Enumeration of the different kinds of Mind, and an account of the motions they produce.—1st, The Elemental Mind—this Mind universal in nature.—2d, The Vegetable Mind—its motions more various.—3d, The Animal Mind—Sensation peculiar to this Mind.—4th, The Intellectual Mind—Thought, Reason, &c. its peculiar attributes.—The other Minds act only with Body—this acts without Body.—Man composed of these three kinds of Mind and of Body;—this composition the famous Tetraëty of the Pythagoreans.—Man a Microcosm.—Our Intellectual Mind, in its present state, impeded by our Body, and the Animal Life, in its operations.—Difference, in this respect, betwixt it and the Supreme Intellect.—Of the Laws of Motion, according to which the Motions of the Planets are governed.—These prove the truth of the doctrine of the Pythagoreans, that the Universe was formed by numbers.—The Science of Music formed by numbers also.*

**I**N the second chapter of this book, I think, I have shown that all the motions in the universe are originally produced by mind: And as this is so important a point, not only in the philosophy of nature, but in theology, I think it is proper to enumerate in this chapter the different kinds of minds which move body; and to give an account of the several motions which they produce. And I will begin with the lowest kind of mind, viz. that which, as I have said, only moves bodies in a certain direction; *up* as in the case of *fire*; *down* as in the case of earth, stones, metals, and such like bodies, also, bodies that are impelled by other bodies, in the direction of  
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the impulse; which bodies cannot be moved by the impulse after it has ceased, but by mind, as I have shown elsewhere\*. This motion is universal in this material world, and belongs to all bodies unorganized as well as organized. Of the mind which produces this motion, and which Aristotle calls *ψυχη τις*, by which he means *a kind of mind, distinct from the other minds in nature, such as the animal and vegetable*, I have spoken already†: And I will only add here, that, as it belongs to every body and makes a part of it, Virgil's description of that universal spirit, that goes through all nature, will very well apply to it.

Principio caelum ac terras, camposque liquentes,  
Lucentemque globum Lunae, Titanique aëtra  
Spiritus intus alit, totamque infusa per artus  
Mens agitat molem, et magno se corpore miscet.

ÆNEID. VI. v. 224.

Besides this universal moving mind, there are other minds which only move particular bodies, such as that which moves the iron and the loadstone towards one another‡, and that which produces elective attraction and repulsion in chemical bodies, of which I have spoken elsewhere. The second kind of moving mind is of a higher kind, being what is called the Vegetable Mind, and of which the motions are more various than those of the first mind; for, by the operation of this mind, the vegetable is nourished, grows, and propagates its kind. The third kind of mind is the Animal, more various still;

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\* Page 21.

† Page 25.

‡ How Sir Isaac would have accounted for this motion I do not know, as he has no where mentioned it. But as he does not appear to have had so much as the idea of body being moved by mind, he must have supposed that it was produced by a *vis insita*, or power essential to matter, not by mind, as Thales, the first philosopher in Greece, said it was moved. This opinion of Thales must appear a little extraordinary, when we consider that the first philosophers of Greece were so far materialists, that they maintained the world to be made of different kinds of bodies, (see p. 24.—25.) But it seems that Thales had no idea of body moving itself, any more than Sir Isaac had the idea of its being moved by mind.

for it is fenfitive, and is thereby diftinguifhed from the two others, which only move body, but have no fenfations. This mind, therefore, feels pleafure and pain, and confequently has appetites and defires, which prompt it to move the animal body in many different ways, in order to gratify thefe appetites and defires. The laft and higheft in the order of nature, is the Intellectual Mind, which, though it directs the movement of bodies, does not immediately and by itfelf move them, but acts without body, thinks, reafons, propofes ends of action, and devifes means to accomplifh thefe ends. And this is the great difference betwixt this fuperior mind and the other minds which I have mentioned, that thefe only act upon body or with body, and cannot be conceived to act or exift without body. All thefe minds that I have mentioned are in us; and, with body, make that wonderful *little world* which we carry about with us, and which is the famous *τετρακτυς* of the Pythagoreans, confifting of the vegetable, the animal, the intellectual minds, and body. This, as I have obferved elfewhere \*, was thought by the Pythagoreans fo great a difcovery, made by the author of their feft, Pythagoras, that they fwore by him who difcovered this *τετρακτυς*, which, they very properly faid, was the fountain of ever flowing nature; and, indeed, from it the whole of nature, and all its operations, proceed. And it may be obferved, that, in our compofition, as there is body, there is alfo that firft mentioned kind of mind, which is common to all bodies, I mean the mind I call the elemental mind, by which our bodies are moved downwards towards the centre of the earth, or in any direftion in which they are impelled; fo that every thing, matter or mind, belonging to the great world is in our little world. But in this our fo various compofition, the fourth kind of mind, the intellectual, is imperfect, being difturbed and impeded in its operations by the body and animal life, with which it is connected in this ftate of its exiftence; but, in the fupreme mind, it is in perfection: And it muft neceffarily be fo, as it directs all the different motions

\* Vol. 5. p. 215.

motions of this universe, proposing ends and devising means; for all the other three minds I have mentioned only move bodies, but have no intelligence by which their motions are to be guided; and though we have intelligence, it is, as I have said, an imperfect one. There must, therefore, be a superior intelligence, by which all the motions of the universe, many and various as they are, are guided and directed to certain ends: And this superior intelligence, therefore, is *God*, the author of all the order and beauty which we observe in the universe; and which, as it is not incorporated with body, as our intelligence is, acts without impediment or molestation, and therefore is perfect and supreme intelligence, and is the author of this universe, which could not be conceived without that order and arrangement of things that we observe in it. But of this I shall say a great deal more in the sequel.

To what I have said upon the subject of minds moving bodies, it will not, I think, be improper to add something concerning the general laws of motion of natural bodies.

As motion is the grand agent in all the operations of nature, if it was not governed by certain rules, the universe could not be a system. What I am to consider here of motion, is not the cause of it, of which I have spoken elsewhere, nor the effects it may produce, but what is essential to it, the quickness or slowness of it: And that depends upon the time which it takes to go through a certain space; for Time is the measure of Motion. The motion, therefore, which carries a body through a certain space in a shorter time than another body is carried through the same space, is a quicker motion; whereas that which carries it through the same space in a longer time, is a slower motion.

Of the ratio which the motions of body have to one another in  
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this respect, we have a notable example in the grandest motions which we observe in this universe; and that is the motions of the planets round the sun. Now the times of the motions of these several planets, compared with one another, are as the cubes of their distances from the sun, the center of their motions; which is a discovery, made by our modern astronomers, of what was unknown to the antients. And there is another discovery made likewise by a modern philosopher, Galilæo, concerning a motion universal in this our earth; I mean the motion of falling bodies, by which they are carried towards the centre of our earth, with a certain acceleration of the motion by the continuance of it, (that is, by its approaching nearer to the centre,) which is in the ratio of the times to the squares of the spaces passed through.

Thus it appears to be true, what the Pythagoreans said, that the universe was formed by Numbers; and, indeed, if it had not been so formed, it could not have been a system; for there can be no system, neither in the works of nature, nor in the works of men, without numbers.

There is one use made of numbers in an art, and a very great art, and the finest of all the fine arts, viz. music, which appears to be very extraordinary, I mean the application of numbers to the tones of the human voice, or of an instrument of music; for it is the different ratios of notes to one another, which compose the gamut.

## C H A P.     V.

*Nothing can exist without a cause:—A first cause therefore necessary. Inquiry into the cause of the world.—This cause must be self-existent—necessarily existent—eternal, and unchangeable.—Such a cause must be mind, the efficient cause of the world.—But a material cause as necessary as an efficient;—also a formal cause and a final.—The material world from all eternity, according to Aristotle;—with whom the author coincides.—Reasons urged for this opinion,—and objections stated and answered.*

**I**N the preceding chapter I have shown, that this material world, from which I am to prove the existence of the supreme being, contains many different minds, by which all the various motions in it are performed. It is also composed of very many bodies of different kinds: and I am now to inquire what cause has produced this wonderful composition of minds and bodies.

That nothing can exist without a cause, is an axiom of philosophy, the truth of which never was disputed: And it is as certain, that there must be a first cause of the existence of every thing; for if there were to be causes of causes, *in infinitum*, there would truly be no first cause at all. The question then is, What is the first cause which has produced and set agoing all that variety of subaltern causes, the effects of which fall under our observation? And that must be a cause not produced from any other cause, and which, therefore, is self-existent. It must also have a necessary and eternal existence,

existence, for otherwise there must have been a time when nothing existed. Now, that cannot be ; for if so, nothing could ever have existed, because, *ex nihilo nihil fit* ; so that if the first cause had not existed from all eternity, there never could have been any thing produced.

This first cause must be also unchangeable ; for whatever undergoes a change of any kind, does so far forth cease to exist, and consequently is neither self-existent, necessarily existent, nor eternal. The consequence of which is, that the material world cannot be the self-existent being which is the cause of all being ; for it is in constant change and succession of one thing to another. It is, therefore, not self-existent, and consequently cannot be the cause of its own existence. There is therefore an absolute necessity, that there should be some other cause of the production of this world : And it is evident, that this cause must be mind, which I have already shown to be the author of all the motions in nature, and the efficient cause of these motions. Now, as I have proved that body cannot move itself, much less can it have produced all those minds which move bodies in this material world. That mind should produce mind is most natural ; and, indeed, we cannot conceive that it should be produced in any other way ; for it is impossible to conceive that body should produce mind, as impossible as to conceive that mind should produce body, as I have shown in the preceding volume\*. There must, therefore, be a material cause for this world, as well as an efficient : So that we have in the production of it all the four causes which produce every thing in the universe ; viz. Mind, the first or efficient cause ; which out of Matter, the second cause, has formed this material world, that is, has given it its Form, which is the third cause ; and as this mind has done that for some end or purpose, we have also the Final Cause.

\* Chap. 12. of Book 3.

cause. And, indeed, it would have been extraordinary, if, in the greatest of all productions, all the four causes had not concurred\*.

Although the material world be not, as I have shown, self-existent, nor consequently the cause of its own existence, I am of the opinion of Aristotle and the other antient philosophers, that, with all the changes which it has undergone and is daily undergoing, it has existed from all eternity. But it will not from thence follow, that it is not the production of an eternal cause; for that an eternal cause should have produced something from all eternity, is so far from being absurd or inconsistent, that it is the necessary consequence of the eternity of the cause. And the Christian Theology furnishes us with an example of such a production, from such a cause, in the eternal generation of the Son of God: For all Christians must maintain that he is produced, or begotten, according to our Scripture stile, of the Father; and no man, who is a Christian, and understands the religion he professes, will maintain that he was produced *in time*, and *not from all eternity*.—But of this I shall say more in the next chapter.

As production and preservation are essential qualities of the Supreme Being, it follows, I think, of necessary consequence, that there never could have been a time when he did not exert those qualities. To suppose, therefore, that there was a time when he had not produced the universe, of which the material world is a part, would be to suppose that there was a time when he was not God. The universe, therefore, must have existed from all eternity.

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\* The first philosopher who discovered these four causes, in the universe, was Aristotle; and a great discovery it was; and which was altogether unknown to the Greek philosophers before him, who talked much of various causes producing the universe, such as earth, air, fire, and water; but, as they did not know the nature of causes, nor how many there were of them, they may be said not to have known about what they were treating, nor what they would have been at.—See what I have said at some length on the subject of causes, in vol. 1. p. 53.

It may be objected that this doctrine of the eternity of the world is contrary to our Scripture, which tells us that the world was created at a certain time, and in a certain number of days, namely in six days; and that God rested the seventh day, which, on that account, was to be kept holy. But this account of the creation Moses has adapted to the capacity of the people for whom he wrote, I mean the Jews; who never could have conceived an eternal production, or that any production or any effect could be coeval with its cause: And he makes God rest upon the seventh day, in order to establish, among his countrymen, the religious observance of that day; and, accordingly, it is well known to have had that effect. Nor is it in this passage only, but in many others, that the language of the Old Testament is adapted to the capacities of the vulgar; as where it is said that God was angry, and that he repented of what he had done: And it was necessary that it should be so, as the vulgar can conceive nothing but what has some relation to the affairs of men in this life. Even a future life of rewards and punishments is not mentioned by Moses; as the Jews appear to have had no idea of a life after death, till our Saviour came among them and brought life and immortality to light. All the rewards, therefore, promised, and all the punishments threatened in the Old Testament, are only temporal, and to happen in this life.

Thus, I think, I have proved, that the material world, and even the whole universe, is an eternal production of an eternal cause, in the same manner as the Second Person of the Trinity is; of which I am now to treat.

CHAP.



## C H A P. VI.

*Addition to the Chapter, of last Volume, on the Trinity.—Reasons for enlarging further on the subject.—The Trinity in the great World, illustrated by the Trinity of our Microcosm.—The three Minds, though three Substances, make but one Being in us.—The same the case of the Trinity in the great World.—The World one and many, as well as the Trinity.—This explained by the connection betwixt Genus, Species, and Individuals.—Intelligence and Vitality essential to the Divinity.—Connection betwixt the system of Theology contained in the doctrine of the Trinity, and the system of the Universe.—The uniformity of this system perfect.—Two other mysteries of our Religion explained, viz. the Eternal Generation of the Second Person of the Trinity, and his Incarnation.—Reasons for promoting the study of Antient Philosophy, which explains such deep mysteries.—Objection, That by such investigations we do not treat the mysteries of our Religion with proper reverence, Answered—And the connection betwixt Philosophy and the Christian Religion shown.*

**A**S, in the preceding chapter, I have mentioned the Trinity as illustrating what I have said of the material world having existed from all eternity, I will add something here to what I have said upon the Trinity in the preceding volume; and I hope the reader will not think, that, when I have done so, I have said too much upon a subject of such importance, being the foundation of the Christian Religion, and that which makes us Christians: For it is in the name of the Father, Son, and Holy Spirit, that we are



baptised, that is initiated into the Christian Religion. And, as no man can believe what he does not comprehend, I think it will not be improper to add this chapter upon the subject; in which I will explain another mystery of the Christian Religion,—the eternal generation of the Son of God.

But besides the reverence that every Christian ought to have for his religion, I hold that no man can be truly a Theist who does not know the doctrine of the Trinity; for, without that knowledge, he cannot perfectly know the nature of God, in what manner he exists, nor how, or in what order, all things in the universe proceed from him.

What appears to be most uncomprehensible, in the doctrine of the Trinity, is, that there are three *persons* in it, or *substances* as they ought to be called\*, and yet these three make but one Being; so that the Trinity is both *three* and at the same time *one*.

And here, I think, I have used a very proper illustration of the doctrine of the Trinity in the great world, from the Trinity in our little world: For that there is there a Trinity cannot be doubted; as, besides our intellectual mind, which may be called the *First Person* of our Trinity, there are two other minds in it, the animal and the vegetable, and these *three* make but one Being. And here it may not be improper to observe the wonderful connection and relation betwixt our little world and the great world; so great, that the composition of man is very properly called a microcosm or *little world*.

But though the Trinity in our *little world* agrees so perfectly  
with

\* The word in Greek is *ὕποστασις*, which is the very same with the Latin word *substantia*, and with our word *substance*.

with the Trinity of the great world, this last mentioned Trinity is a subject of infinitely greater importance than the Trinity of our little world; for it contains the system of the divine nature, which, as I have shown in the preceding volume\*, must necessarily comprehend one Supreme Being, the Author of all things, and from him proceeding Intelligence, and from Intelligence a Spirit of Life and Animation, both so essential to the first being, that they are to be considered as making with him but one being, consisting of three substances.

And here we may observe a wonderful conformity betwixt this system of divinity, and the system of the world produced by divinity. Of the antient philosophers, some maintained that the universe was *one*, others that it was *many*; but others of them, and among them Heraclitus, maintained what I hold to be the true opinion, that it was both *one* and *many*: And Proclus, a commentator upon Aristotle, tells us that the *one* in the *many*, and *the many* in *the one*, comprehended the whole Theology of Plato; and he might have added, the whole system of the universe, which is composed of *genuses*, *specieses*, and *individuals*. Now, that the *genuses* and *specieses* consists of the *one* and *many* is evident. But I say further, that every individual of every species is *one* and *many*: For every individual must have all the properties of the species to which it belongs. It must likewise have all the properties of the genus of that species; and, if there be a superior genus, (which there must be, one or more, till we come up to the highest *genuses*, that is the *Categories*,) also of that genus; for as the genus contains the species virtually, the species being derived from it, so the species comprehends the genus actually, having all the qualities belonging to the genus in it. And in like manner the individuals of every species comprehend all the properties of that species, and by consequence

\* Page 191.

quence the genus, which, as I have said, is certainly comprehended in the species. Thus, for example, the individual *man* is of that species of animal called *man*, and therefore he must have in him all the qualities of that species, by which it is distinguished from other specieses of animals; and he must also have in him all the properties of the genus *animal*, which necessarily belong to every species of that genus. He is, therefore, intelligent, by which the species *man* is distinguished from the species of other animals on this earth. And he must also have in him what belongs to the genus *animal*, and is common to him with other animals. He must also have in him what belongs to the genus above *animal*, that is *body*; and, lastly, he must have what belongs to the genus above that, namely *substance*, which is one of the Categories: So that as he is an individual, he is only *one*, but as belonging to a species and to the genres above that species, he is *many*.

Thus it appears, that the whole system of the universe, and even the individuals of that system, consist wholly of *the one in the many*, and *the many in the one*. So that the Supreme Being, the head of that system, if he were so different from the other beings of the system, as to be only one and not more, there would not be that unity in the system which we must conceive to be in a system so perfect as that of the universe. The substances, which the doctrine of the Trinity joins with the nature of the Deity, are not only perfectly consistent with it, but so essential to it, that we could not have an idea of Deity without them. These are, as I have said, Intelligence and the principle of Vitality; without both which we could not conceive the Deity to have produced the universe; and, as that production is essential to his nature, we could not have otherwise conceived him to be God.

Such being the system of the universe, it is evident that the system of Theology, contained in the doctrine of the Trinity, would have

have been inconsistent with that system, if it had not been likewise *the one in the many*, and *the many in the one*. Why the many are not of such number in the Trinity as in the other parts of the universe, I think I have given a very good reason \*. As, therefore, the relation of the One and the Many goes through the whole system of beings in the universe, beings divine as well as others, it is evident that the system of the universe is the most uniform, and in that respect the most compleat system that can be imagined. How compleat it is in other respects I shall afterwards show.

I will only say further, upon the subject of the Trinity, that it is so necessarily connected with the being of a God, that we cannot conceive a God without the principles of Intelligence and Vitality being essential parts of his nature, and that it appears to have been believed by every nation who had what can be called a system of religion. It was a part of the religion of the Jews in the time of Moses, though it was not revealed or explained to them as it was by our Saviour to his Disciples: For it is observed, by those learned in the Hebrew language, that in the account of the creation given by Moses, where he speaks of God doing any thing, though the word expressing *God* is in the singular number, thereby denoting the unity of the Godhead, the verb is in the plural number; and even in our English translation, God says, "Let *us* make man after *our* own image." It was also the religion of Egypt, where Plato learned it: And it is at this day the religion of the Bramins of India, as I have shown in volume 4th of this work †; where I mention a type which they have of the Trinity, and which I do not think an improper one, viz. a triangle inscribed in a circle, representing *the three in one* and *the one in three*. It is also the doctrine of the religion of the Lama's, the most universal religion in the eastern parts of Asia ‡. This doctrine appears  
also

\* Vol. 5. p. 193.

† p. 292.

‡ Parson's *Remains of Japhet*, p. 205.

also to be known in Mexico \*: And it is to be found even in the deserts of Siberia, where a medal was discovered in the ruins of an antient temple, with a figure, which is a type of the Trinity, upon it, and with an inscription in the Celtic language, and in the characters of that language used at present in Ireland; which shows that it was part of the religion of the Celts as well as of other antient nations †. The Grand *Lama* or *Delay Lama*, as they call him, has many of these medals which he gives to the people as a holy thing to hang to their necks ‡. In short it appears to have been so generally believed by all nations having an established religion, that it may be said to be the religion of nature.

I will here add nothing more upon the doctrine of the Trinity, having said so much upon it in the preceding volume; where I have also said a great deal upon the subject of the ideas of Plato, which I have shown to have a necessary connection with the Trinity; so that, altogether, they exhibit a wonderful system of the universe, all proceeding, by proper steps and regular degrees, from the first cause.

There is another mystery in the Christian Religion which is as incomprehensible, by those who are not philosophers, as the doctrine of the Trinity is; but, for the comprehension of which, I hope I have prepared the reader, by what I have said of the eternity of the universe, though it be the production of the Deity. The mystery I mean, is the eternal generation of the Son of God. The Son, or Second Person of the Trinity, is, according to the doctrine of the Christian Church, eternal as well as the Father, from whom he is produced: And this is what is meant by the eternal generation of the Son. Now to a man, who is not a philosopher, it must appear inconceivable

\* Parson's *Remains of Japhet*, p. 221.

† Ibid. p. 184.

‡ Ibid. p. 185.



conceivable that one being should be produced by another, and yet be co-existent with him from all eternity. It is not, therefore, I think, to be wondered that there should be such a herefy in the church as Arianism, or that it should have been once so prevalent. Now, the doctrine of Arius was, that, as the Son, or Second Person of the Trinity, was produced, (or *begotten*, as it is expressed in Scripture,) by the Father, he must have been in existence posterior to him; and then he must have existed *in time*, and not from all eternity, as the Father existed; and, accordingly, Arius maintained that there was a time when he was not: His expression was, 'ην ὅτε οὐκ ἦν. But antient learning will explain this mystery, as well as the mystery of the Trinity, and show that one thing may proceed from another as its cause and yet be coeval with it. This may be explained by an example which every man, who has learned the elements of geometry, will readily understand. It is this, that every corollary of a proposition is a truth eternal as well as the proposition itself; and yet it is derived from the proposition as its cause, and could not have existed if the proposition had not been an eternal truth.

What has led Arius and his followers into the error of supposing that the Son, being produced by the Father, could not be co-eternal with him, but must have existed in time, is what we observe of the production of things on this earth, where the production is always posterior in its existence to the cause producing it. But this is only true of things material, which have no permanent existence, but are constantly changing, being never the same thing for two moments together; so that they cannot be said properly to exist, but are always in the state of becoming something different from what they are; 'οὐκ ἔστι ἀλλὰ γινεται, as it is expressed in Greek: Whereas Beings divine have a real existence, and are the 'τα οὕτως ὄντα; and the same is true of all immaterial Beings. Now, the Theorems of science are certainly not Beings material but immaterial.

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But, setting aside things immaterial, there is one material thing which will illustrate this matter very much, and make it intelligible even to those who are not philosophers. The thing I mean is the Sun, which produces rays that are coeval with the cause producing them; as we cannot suppose the Sun to exist without rays. And this example, with the other I have given from the theorems of science, proves this general proposition, that wherever any thing, by the necessity of its nature, produces another thing, both the thing produced and the cause, or that which produces it, must be co-existent: So that if the cause be eternal, the production also must be eternal. Now this is the case of the generation of the Son of God; for as production is essential to the Supreme Being, and as the first production, according to the order of nature, must have been the principle of intelligence, or the Second Person of the Trinity, it was necessary that this production should be coeval with the First Person of the Trinity, from which it is derived, and consequently co-eternal with him. And in this way, I think, the eternal generation is clearly explained, as it is shown that the First Person of the Trinity could not exist without producing the Second. Whoever does not believe this, must believe as Arius did, that *the time* was when our Saviour did not exist; and that he was produced in the way of common generation here on earth. Now, this is a heresy that strikes at the very foundation of the Christian religion, but which, as I have shown, was an error that men, who were not philosophers, would naturally fall into, and was therefore a more general heresy and more predominant than any other that ever was in the Christian church.

And thus, I think, the two fundamental principles of the Christian religion, the doctrine of the Trinity, and of the eternal generation of the Son of God, are clearly explained. And as they are thus made comprehensible by us, they may be believed, and ought to be believed, as I think I have shown that they are truths of philosophy

phy as well as of religion : And for the same reason that the Second Person of the Trinity must have been begotten from all eternity of the First, so the Third must have been begotten of the Second.

In this way the eternal procession of the Second and Third Persons of the Trinity from the First, and of all things in the universe from them, is clearly explained. Nor, indeed, do I think that, without the doctrine of the Trinity, the procession of all things in the universe from the first cause, could be otherwise explained : For it is impossible to suppose that all things should have proceeded immediately from the first cause, and promiscuously, without order or arrangement ; as that would be making a chaos of the creation : Whereas a more orderly and regular production cannot be imagined than, first, Intelligence, by which the universe was formed ;—then the principle of Life and Animation, by which every thing was moved and put in action, and so the universe made a compleat system.

There is one other fundamental doctrine of the Christian religion which I have not yet mentioned. That is the incarnation of our Saviour. But this is not such a mystery, nor so difficult to be understood, as the doctrine of the Trinity, or the eternal generation of the Second Person of the Trinity : For it is only supposing that our Saviour, instead of human intelligence, brought with him to this world that divine intelligence which belongs to his nature, and which was embodied with the animal and vegetable mind belonging to human nature.

Thus, I think, with the assistance of antient philosophy, I have been able to explain the philosophy of the Christian religion : For, as I have elsewhere observed \*, as it is the best popular religion that ever was, so it is the most philosophical ; nor, indeed, do I think that

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\* Vol. 5. p. 189.

the philosophy of it can be well explained, or even comprehended, without the assistance of antient philosophy. To a man who has not studied the system of the universe, as it is delivered to us in the antient books of philosophy, the doctrine of the Trinity must be a most incomprehensible mystery; for he never can comprehend how the *one* should be *three*, and the *three one*: Whereas, from these antient books of philosophy, he may learn that the whole system of nature is composed of *one in the many*, and *many in the one* \*. So that, as I have observed, the Trinity, if it had not been composed in that way, would have been disconform to the rest of the system of the universe. Now, if a man cannot comprehend the doctrine of the Trinity, he cannot believe in it, nor consequently can he believe that fundamental principle of the Christian religion, that Jesus Christ is the Son of God, and the Second Person of the Trinity; and his eternal generation will be equally incomprehensible by him, unless he has learned that the production of an eternal being is eternal as well as the being who is the author of the production. The study, therefore, of antient philosophy ought to be very much encouraged by the church, as without it a man can only understand the popular part of the Christian religion, but not the philosophical: So that he cannot be said to be admitted into the *Sanctum Sanctorum*, nor to know so much as Plato learned in Egypt of the philosophy of Christianity; I mean the doctrine of the Trinity.

There are, I know, who think that we do not treat the mysteries of our religion with sufficient reverence, when we examine them so curiously; but that we ought to receive and believe them as revealed to us by God, without any such examination. To this I have already given an answer, that we cannot truly believe what we do not comprehend or understand, though we may profess to believe it. Now, there is the mystery of the Trinity;—of the eternal generation

\* See this enlarged upon in p. 45. of this volume.

ation of the Son of God, the only begotten of the Father;—and of his incarnation;—all fundamental doctrines of Christianity, (particularly the doctrine of the Trinity, without which we cannot, as I have said, comprehend how Jesus Christ should be the Son of God,) but which cannot be comprehended nor believed without some knowledge of philosophy. It is for this reason I have said\* that the Christian religion is a philosophical religion, more than any religion that ever was in the world. But it is a popular religion at the same time; and I think I have shown it to be the best popular religion that ever was. Now, though a man may not have cultivated his intellect enough, to understand the philosophical part of the Christian religion, yet if he believe that Jesus Christ was the Son of God, (though he may not be able to explain how he should be so, not understanding the doctrine of the Trinity,) and that he came to this world, and took upon him the human form in order to save man from his fallen state;—and if he likewise believe that, if he practices the precepts of the gospel, particularly that precept which recommends to us the love of God and of man, as the fundamental duty of a Christian, he shall be happy in the next life, whereas, if he lives a wicked and irreligious life he shall be punished in the next world;—He may be reckoned a Christian, and will have his reward in the next world; though, as our Saviour has told us, “That in his “ Father’s house there are many mansions”, I am persuaded he will not enjoy there so much happiness, as those who have cultivated their intelligence to such a degree as to understand those fundamental doctrines of Christianity which we call *mysteries*, and whose practice of religion is suitable to their understanding of it. For as man is an intellectual creature, and as intelligence is predominant and the governing principle in his nature, it is evident that the perfection of his intelligence, particularly in matters of the most sublime speculation, such as things divine, must be the perfection of his nature.

C H A P.

\* Vol. 5. p. 189.

## C H A P. VII.

*Of the system of Genuses and Specieses in the Universe, and its usefulness in Language, in Logic, and in the perfection of Human Knowledge.—By it we show how all things proceed from the highest of the Categories, Substance,—which contains them all Virtually, while they contain it Actually.—This doctrine, applied to the Supreme Being, explains a passage in Genesis.—Of the advantages of the study of Logic, which carries us up to Theology.—General Ideas the foundation of all Science.—Process of them from the Supreme Being:—Defect in the system of Nature if they did not exist.—This doctrine of Ideas Plato brought from Egypt—as well as that of the Trinity.—Explanation of Virtual and Actual Existence.*

**B**EFORE I conclude this book I think it will not be improper to add to it a short chapter upon a subject which I have often mentioned in the course of this work, the division of things in the system of the universe into genres and species. It is a division of such importance, that there could be no order or regularity in the system without it. And it is of such use to us in this lower world, that we could comprehend nothing without it, nor express any thing by words: So that we could have no use of language; for it would be impossible to give a name to every individual thing. We must, therefore, name things by their specieses or their genus. And even the most barbarous and imperfect languages give names to things which denote their species; for there is no nation that has any use of speech which does not denote every thing by the species

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to which it belongs. In this way they speak of the different specieses of animals with which they are conversant; so that they have a name for a *man*, a *horse*, or an *ass*: But very few of them, if any, have a name for the genus of these specieses, I mean *animal*; nor do they appear to be so far advanced in the knowledge of things as to have any idea so general as that of *genus*. And, indeed, this ascent, from the perception of individual things to the species to which they belong, from the species to the genus, and from a lower genus to a higher, shows that wonderful progress in knowledge and that improvement of our intellect for which we are placed in this world. Thus, from the perception that we have by our senses, of any particular animal, (*man* for example), we rise to the idea of the species to which he belongs; then from the species we proceed to the genus of that species, which is *animal*. And in doing this we observe what the logicians call the specific difference; that is, what distinguishes the species from the genus, and one species of that genus from another. This, in man, is *intelligence*. We may observe likewise other things which are proper and peculiar to man, and also things that are accidental or common to him with other specieses of animals; and in this way we go through Porphyry's *five words*, *Genus*, *Species*, *Specific Difference*, *Proper* or *Peculiar*, and *Accidental* \*. But the progress of things, and of our knowledge, does not stop here; for we ascend from the genus *animal* to a higher genus, that is *animated body*, or the *τε εμψυχον*, as the Greeks called it, comprehending both the animal and the vegetable: Then from *animated body* we proceed to *body*; and from *body* to *substance*, which is one of the Categories, that is one of the highest *genuses* †, beyond which there is nothing but the Supreme Being, from whom all things proceed, and who, therefore, comprehends them all. So that here we have a progress from an individual

\* See on this subject, p. 32.

† See what I have further said upon this subject, p. 46.



individual to one thing, which comprehends many individuals; then to another one thing, which comprehends more things under it; then to a third thing, which comprehends still more; and so on till we come to what comprehends all things, and is not only *the one in many* but *the one in all*.

This account I have given of the progress of our knowledge, presents to us a system by which many things proceed all from one thing, in the most regular and orderly way; which one thing does *virtually* comprehend them all: For the highest genus that I have mentioned, viz. the category of *substance*, does *virtually* comprehend *man* and every other animal, and is *actually* contained in *man* and the other things I have mentioned. In the same manner the Supreme Being does *virtually* comprehend *substance*, and is comprehended *actually* in every individual substance. And, therefore, I think the doctrine of specieses and genres, rising above one another, is the best illustration that can be given of the procession of all things from the first cause, and explains most clearly that fundamental principle of theology which is laid down in our Scripture, “That all things are in God, and God in all things:” That is, “That all things are *virtually* or *potentially* in God, and God is *actually* in all things.” But when we say, that God is *actually* in all things, we must not be understood to mean that every attribute of the divinity, that is the whole divinity, is *actually* in every thing, but only that every thing that is essential to the thing, and constitutes its nature, is derived from God: So that in this respect, and this only, God is in all things. Of this I will give an example in the principle of motion which I have shown to be in every body. Now, this principle is derived from the Third Person of the Trinity, the source of all life, animation, and consequently of motion. And this sense that I have given of God being actually in all things, perfectly agrees with the illustration of the procession of divinity which I have

have given from the doctrine of *genuses*, *specieses*, and *individuals*; for the *species* does not contain all that is in the *genus*, nor the *individual* all that is in the *species*, but each of them contains only what is necessary to constitute the thing and make it what it is.

What I have here said shows of what importance the science of logic is, which is so little cultivated at present in Britain: For it not only explains to us the operations of our noblest faculty, intellect, in the study of sciences, and directs these operations, but it carries us up to theology, the summit of human knowledge, and is the best preparation for that study.

This illustration of the procession of all things from the first cause, which the doctrine of *genuses* and *specieses* affords, would, I think, be very valuable, even if these *genuses* and *species* had no real existence, but were no more than fictions or creations of our mind, collected from a great number of individuals; which is the opinion, I believe, of all the philosophers of this age, and was the opinion even of Aristotle, who supposes that every being on this earth, even the meanest insect, proceeds directly from the supreme being, without the intervention of *genuses* or *specieses*; which he says are only ideas of our mind, but which have no existence in the nature of things. Upon this subject I have said a good deal elsewhere\*; and I will only add here, that as general ideas are the foundation of all science, I cannot be convinced that they are created by us, and have no existence in the nature of things by themselves, out of the mind of any intelligent being, even of Supreme intelligence. That they are in the mind of the Supreme Being, and that they proceed from him, as every thing else in the universe did, I think it would be impious to deny. And I say they proceeded from him as they existed in his mind, that is as generals and not as the particulars:

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For,

\* Vol. 5. p. 187.

For, as Gregory Nazianzen has taught us, all the ideas of the Divine Mind are realized, otherwise they would exist there to no purpose, as many ideas exist in our mind. And, indeed, it is most absurd to suppose, that the general ideas in the mind of the Deity so far changed their nature, when they were realized, that they were divided into the particular ideas of which they were composed. They proceeded, therefore, from the mind of the Deity as they existed in it, and formed immaterial substances, such as Plato tells us all his ideas are; and, indeed, as I have shown, it is impossible to suppose that any thing material can proceed from Deity.

But this procession from the Deity was, like every other procession from him, regular and in due order. The first in rank and dignity, not in time, (for every thing proceeding from the Deity is, like himself, eternal), are the highest genuses, such as the Categories. From them proceed lower genuses, and from these genuses specieses; and so on till we come down to the lowest specieses of things, which produce nothing but individuals, that are incorporated with body and animate all the bodies on this earth. And thus we have a system of beings all producing one another; the higher and more excellent, the subordinate and less excellent; but all proceeding ultimately from the first cause, and making a chain of beings in the creation, like the chain in Homer, that was fastened to the throne of Jupiter, of which no link is wanting\*; whereas there would be a wonderful gap in the works of creation, if nothing were interposed betwixt the first cause and the meanest insects, or those minds which inform, as I have shown, not only animals and vegetables, but even unorganized matter, and produce those movements which we observe in such matter.

These are the ideas of Plato, of which I have said so much in the  
passage

\* See vol. 5. p. 187.

passage above quoted. This doctrine of ideas he brought with him from Egypt, as well as the doctrine of the Trinity, with which I think it is intimately connected; for, if the procession of things from the first cause was to end in the Third Person of the Trinity, I should think the system of the universe mutilated and imperfect.

I have said so much of Ideas here and in other parts of this work, that I am afraid the reader is weary of them, and wishes that I would change the subject: And I will do so after making one general observation upon them, which I think is of great importance; and it is this, that the doctrine of ideas explains to us the essence of things, which, it is commonly said, we do not know; and, accordingly, I have said so in more than one place. And it is certain that we describe and define things only by their qualities; but these qualities cannot have produced themselves, but must proceed from something which must exist in the thing that has those qualities, and which therefore I call the essence of the thing. Now that essence is the idea which exists in every thing, and makes it what it is: And this was perfectly understood by Timæus the Locrian; and he has fully explained it in that most valuable work of his, *De Anima Mundi*, where he tells us that all things in this material world proceed from two causes, *matter* and *idea*; and the *matter* he compares to the *mother*, and the *idea* to the *father*: So that, according to his system, there is an idea in every thing, which, as I have said, forms the thing, makes it what it is, and gives it all those qualities by which we know it and describe it, so that this idea is truly its essence: And this I hold to be the best account that ever was given or can be given of the production of every thing in the universe. And it is a most perfect system of Theism; for, as all ideas proceed from God, this philosophy of Timæus makes him the author of all things in the universe.

It is these ideas which give body its form, and make it what it is, either an animal body, a vegetable, or a mineral. And, indeed, it would be absolute materialism to suppose that matter could give itself those different forms and qualities of body: So that I hold that an idea, or in other words, mind, is absolutely necessary to give a particular body that form by which it is distinguished from other bodies. And it is the same idea, or mind, that produces those motions which belong to all bodies, unorganized as well as organized, by which they ascend or descend, or are moved in the line in which they are impelled, and by which they are moved to or from one another. This is the mind which I call the elemental mind, and which is so universal in nature, that Aristotle calls it by the name of *Nature*; and it no doubt produces all the motions in bodies which we call *natural* motions, and in that way distinguishes them from the motions produced by the animal and vegetable minds, which are to be considered as minds quite different from this natural and universal mind, as it may be called.

Those ideas of things material are very properly supposed by Plato to have an existence separate from the body in which they are incorporated, and to be more excellent, being pure and unmixed, than when they are thus incorporated. And this is what he calls the *ἄυτο-ανθρῶπος* and the *ἄυτο-ἰππος*. And of the same kind was every plant of the field, which, our Bible tells us, the Lord made before they were in the earth, and every herb before it grew\*. Now, these plants and herbs, before they were in the earth and grew, I can

\* Chap. ii. v. 5. of Genesis. What the words in Hebrew are I do not know, as I do not understand that language; but, according to the Septuagint, the words are very properly translated in our Bible. In the Septuagint it is, *Και παν χλωρον αχρου (ιτοιμασε) προ του γινεσθαι επι της γης, και παν α χορτον αχρου, προ του ανατειλαι.* And I am persuaded it is well translated from the Hebrew; for I cannot believe but that these 70 men understood the Hebrew better than any men now living.

can understand to be nothing else but the ideas of them in the Divine Mind, which he realized by incorporating them with matter.

And not only are the ideas of things material in the Divine Mind, from which mind they derive their existence, but the ideas of immaterial substances also are in his mind; and these substances are those ideas realized. In this manner we must suppose, that the Second Person of the Trinity existed in the Divine Mind, and was from thence realized, and made to exist separately by himself; and in the same manner the Third Person of the Trinity existed in the mind of the Second Person. These ideas, forming the Second and Third Persons of the Trinity, are, like their great author, from all eternity: And as they are not embodied, that is incorporated with matter, they do not degenerate, but continue always in their primitive perfection; whereas minds embodied, must, of necessity, by the contagion of the matter with which they are joined, be more or less depraved, according to the quality of that matter. And in this way we are to account for the difference we observe among the individuals of the same species of animals; for those who are *ex meliore luto*, as the antients expressed it, are less degenerate than those of a *worse kind of clay*.

Thus it appears, that all beings, material (by which I mean minds incorporated with matter) and immaterial, are ideas of the Divine Mind, existing in that mind *virtually*, but not *actually* and in energy till they issue from it and have a separate existence.

From what I have said of the manner in which things exist in the Divine Mind, that is *in idea*, before they have a separate existence out of it, the terms of *existing virtually* and *actually*, may, I think, be easily understood; but as they are commonly used, and every thing in nature exists either *virtually* or *actually*, I think it will not  
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be improper to say something further, in order to explain those two different ways of existing. When we say that a thing exists *virtually*, we mean that it exists in some other thing which contains it, but has not produced it in the form belonging to its nature. But when we say that it exists *actually*, we mean that it is produced out of the thing containing it, and has a separate existence in the form belonging to it. To make this distinction more clear, it will be necessary to distinguish betwixt intellectual animals, and other animals and vegetables. In these the things, which are produced out of them, are said to exist in them *virtually* before they are produced; for, in this way they exist in the seeds of the parent animals and vegetables; but they do not exist *actually* till they are produced and are really animals and vegetables. But, in intellectual beings, things exist *virtually* or *potentially* (for either word may be used) in the ideas of the mind of the intellectual being. In this manner a work of art exists *virtually* in the idea of the artist before it be produced, that is, before it *actually* exists: In this way also all the works of God exist *virtually* in the intellectual world in him, but only *really* and *actually* when they are produced and exist out of his mind. But, according to the theology of Gregory Nazianzen, all the works of God exist in both ways: For he maintains, that all the ideas of the Divine Mind are realised and have an *actual* existence\*; whereas in the intellectual world of man, that is in our microcosm, there are very many things which exist only *in idea*, that is *virtually*, but never *actually*. And this, I think, is a very proper distinction betwixt our minds and the Supreme Mind, in which last nothing can be conceived to exist to no purpose; which would be the case of his ideas, if they were not produced out of his mind into actual existence.

## BOOK

\* See what I have said of Gregory Nazianzen's doctrine, p. 186. of vol. 5. and also p. 57. of this volume.

## B O O K II.

Of the *Attributes* of God, and particularly of his *Intelligence*.

## C H A P. I.

*The Existence and Nature of God considered in the preceding Book ; —This to treat of his Attributes.—These to be learned from his works as well as from his Nature and Existence.—His first Attribute Intelligence.—This universally admitted to be necessary to the Supreme Being.—The Intelligence of Man compared with that of the Supreme Being.—By such comparison only can we form any Idea of that Intelligence.—All our Ideas arise from our Sensations ; —the Ideas of Divinity congenial with him, innate and essential to his nature.—Our progress from Particulars to Generals :—That of Superior Intelligence the reverse :—But after Ideas are formed our progress the same with that of Superior Intelligences.—The Divine Mind contains the Ideas of all things possible to exist :—The case of our Mind very different.—All the Ideas of the Divine Mind realized,—many of ours Entia Rationis.—The Divine Ideas continually present, so that no Idea excites another :—We pass from one Idea to another ;—in Syllogism and Definition we have something of this Divine Faculty.—Of Mr Locke's gross error in confounding Ideas*

*Ideas with Sensations ;—and of the difference betwixt* *Νοῦς* *and* *ἐπιστήμη*.—Our progress in Knowledge from the one to the other, till we come to Science, the greatest work of Intelligence.—No progress of this kind in the Divine Mind, who sees all things intuitively.—This faculty, in some degree, we possess in comprehending Axioms and Self-evident Propositions.—The sense of the Beautiful a quality of the Divine Mind.—The Beautiful consists in System—and is perceived by the Intellect only.—Of this quality we also participate;—it is the governing Principle in us ;—is often thwarted by the passions of our animal nature ;—must be perfect in the Supreme Being.—The contemplation of it his greatest happiness.

IN the preceding Book I have demonstrated that God exists, and I have endeavoured to explain his nature; and, though creatures of our finite capacity cannot comprehend the Supreme excellency of the substances of which he is composed, yet I think I have shown it to be no incomprehensible mystery, that these three substances should make only one being. If it were incomprehensible we could not comprehend our own existence: For, as I have shown, we have three minds, the Intellectual, the Animal, and Vegetable, which make but one being, that is *man*. I have further shown, that every thing in nature, even every individual thing, is *one* in *many*. I have also shown, that the union of several things to form one being, is agreeable to the general analogy of nature, according to which every individual thing is *one* of *many*. I have likewise shown, that the existence of Deity is proved in the only way that the existence of any being can be proved, even our own existence, that is by his works, and particularly by his being the author of all the motions of the universe, by which the whole business of nature is carried on. By this the reader must not understand my meaning to be, that all bodies are immediately and directly moved by the Supreme

preme Mind; for that could not be, unless he were embodied in them, the only way in which, as I have said, mind can move body: But to maintain this, would be the grossest impiety.—My meaning therefore is, as I have said, that the motion of all bodies is produced by inferior minds, which proceed from that Substance (or *person*, as we call it) of the Divinity, *the Holy Spirit*, which gives life and action to all the beings in the universe.

Thus far our inquiry has gone concerning the Divinity: And what we are next to consider is, what his attributes are, and whether he be, as I have said he is, a Being of infinite wisdom and goodness as well as of power. And, as it is only by the works of God that we know he exists, the same works must let us know what qualities or attributes we are to ascribe to him.

The prime attribute of the Divinity is intelligence, being the first procession from him in his only begotten Son, who is the principle of intelligence, called in Greek *λογος*, and in our English translation expressed by a very improper name, *word*. This word, in the English language, denotes, and only denotes, an articulate sound expressing some perception or idea of the human mind, but never can denote intelligence of any kind, and much less the principle of intelligence, that is the Second Person of the Trinity and the first procession from God the Father. The word in Greek is used to denote intelligence expressed in speech, as well as intelligence in the mind of the intellectual being; but, as it is used in the doctrine of the Trinity, it can denote nothing but intelligence, and, as I have said, the first principle of intelligence\*. The first thing to be

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considered

\* See vol. I. of *Origin of Language*, p. 7. in the note; also what I have said upon this subject in the fourth volume of this work, p. 382. where I have shown that the Greeks make the distinction betwixt *λογος ενδιαιτης*, and *λογος προδρομικος*; and where I have also spoken of the doctrine of the Trinity.—See also Vol. V. of this work, p. 190.—I have treated the subject at length in Chap. VI. of the first Book of this vol.

considered in the works of God, is, Whether they do not show intelligence and supreme intelligence? And this must depend upon another thing to be inquired into, Whether the universe be a system or not? for if it be a system, it must be the work of intelligence. That intelligence is essential to the Supreme Being, every man, who has any idea of a God, must allow; nor, indeed, is it possible to conceive the Supreme Being without supreme intelligence. This is the doctrine of all philosophers, Heathen as well as Christian †. Man, too, is an animal of intelligence, by which he is distinguished from the other animals upon this earth. But he was not so upon his first appearance here; for, as the individuals of the species are without intelligence when very young, so the whole species was when they first appeared on this earth and were in what I call the natural state. And here it may be observed in passing, that, as every thing in this universe is conducted in the greatest order and consistency with the whole of things, it was very natural that there should be the same progress of the species as of the individual. But our intelligence, even when it is cultivated by arts and sciences as much as is possible, is by infinite degrees inferior to the Divine: And yet it is only by comparing our intellect with what we must suppose the intelligence of God to be, and adding to our intelligence what we may suppose is wanting to make it perfect, that we can have any idea of the Divine intelligence; so true it is, that it is only by the knowledge of ourselves, that we can have any idea of God or of superior intelligences. Let us, therefore, compare our intelligence, when brought to the greatest perfection by arts and sciences, with the Divine:

And,

† Vide Plutarch. *De Iside et Osiride, in initio*. His words are, Ου γαρ αργυρον και χρυσον μακροισιν το Θειον, ουδε βροτακις και κισσικοις ισχυροισιν, αλλα επιστημη και Φρονησει. Και τουτο πολλιστα παντων Ομηρος 'ων ειρεκε περ. Θειω, ανατρεχόμενος,  
 Ζεος προτιρος γίγοντι και πλείονα υδρι

He might have added another authority also from Homer, where he says,

Θεοι δε τε πάντα 'ισασθαι. *Odyf. 4. v. 379.*



And, in this comparison, the account I am to give of the human intelligence, will be very proper for the instruction of those who know no more of that intelligence than what is to be learned from Mr Locke.

And, in the first place, our ideas, without which there can be no intelligence, arise all from our sensations; for it is by our senses only that we know any thing when we first come into this world; and from these are derived our ideas in the manner I have elsewhere described at some length\*. On the other hand, the ideas of the Divine Mind are all congenial with that mind; and it would be profane in the highest degree to say that the supreme intelligence derived his ideas from the objects of sense. The consequence of this is, that the ideas of the Divine Mind are all innate, essential to his nature, and from all eternity as he himself is; whereas our ideas come only in process of time, and are brought to no degree of perfection, but by the cultivation of arts and sciences.

From this way of forming our ideas, it is evident that the progress of the human mind must be from particulars to generals; for it is only from particulars, which are apprehended by the senses, that we form ideas of generals. Whereas the progress of superior intelligences is just the contrary; for they proceed from generals to particulars, that is from what is more excellent to what is less so. It is, therefore, from the general idea that a superior intelligence recognises the particular. Even in man it is not intellect that perceives the particular object. All that the intellect apprehends is the genus or species of the object; but it is the sense that presents to him the object. And, therefore, as I have said elsewhere†, we cannot be said properly to see a man or a horse; for all that the sight perceives, is a particular thing of such or such form. But it is the

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intellect

\* Vol. IV. of this work, Book I. Chap. 6.

† Ibidem.



intellect which perceives that it is a man or a horse, by applying to the figure presented by the sight the idea of a man or horse. So that when we have formed ideas, we proceed, as superior intelligences do from generals to particulars: And so we do in all the demonstrations of science; though in forming our ideas, as I have said, the progress is quite the contrary.

Another thing, by which the human intellect is remarkably distinguished from the Divine, is, that in the mind of the Deity are contained the ideas of every thing that exists or which can exist, that is, does not imply a contradiction, or is not inconsistent with the nature of things, or with the attributes of Divinity, which I hold to be an essential part of the nature of things: And, therefore, Aristotle is in the right, when he says that every thing exists which is possible to exist; for if it exist in the Divine Mind, it must have a real existence in the nature of things, as I shall presently show. How different the case of the human mind is, I need not observe.

But farther, I say that the Deity has not only the idea of every thing that exists, but that every idea of his mind is realized, and has an actual existence: For there are not in his mind any *entia rationis*, as we call them, such as are in ours, that is ideas of things that neither do exist, nor ever did exist, nor perhaps ever will exist. I therefore hold it to be excellent philosophy what Gregory Nazianzen has maintained, that all the ideas of the Divine Mind are realized, and have an actual existence in the nature of things\*.

Another essential difference betwixt our minds and the Divine, is that all the ideas of the Deity are continually present to him, so that there is no need of any one idea in his mind exciting another, as in ours. There is not, therefore, in the Divinity that *νοησις μεταβατική*,  
of

\* Of the doctrine of Gregory Nazianzen see vol. V. p. 186. also p. 58. of this vol.

of which the commentators upon Aristotle speak so much, by which the mind passes from one idea to another. How inferior our minds are in this respect to the Divine, it is needless to observe. We have, however, something of that faculty by which several ideas are at once the subject of the contemplation of our minds. It is in this way that we form an idea by perceiving the one in the many, and that we understand the definition of any thing proposed to us: Nor, without this faculty, could we be convinced of the truth of any syllogism; for we must have in our mind altogether the ideas contained in the premisses, otherwise we could never give our assent to the conclusion.—And thus much may suffice to show the difference betwixt our intellect and the Divine, with respect to ideas.

Of that difference which is betwixt the ideas of the Divine Mind and of ours, that all our ideas are derived from objects of sense, whereas it would be gross impiety to say that the Divine ideas originated in that manner, I have already spoken; and I shall only add here, that, though all our ideas are derived from our sensations, they are quite different from them, being formed by our intellect, and not by our senses, of which they are not the perceptions, though these perceptions give rise to them. It is, therefore, the grossest error which Mr Locke has fallen into, of confounding sensations and ideas, and of making a whole class of ideas, which he calls *ideas of sensation*. But of the difference betwixt ideas and sensations I have said enough in the preceding volume. I will, therefore, say nothing more of ideas here, but proceed to inquire concerning that comparison of our ideas, by which science is produced; and which Aristotle has very properly distinguished, in the definition that he has given us of *man*, from that faculty of the mind, by which our ideas are formed, and which is called by the Greeks *νοῦς*, whereas science is called *ἐπιστήμη*; and man is very properly defined by him to be *νῦν*

καὶ ἐπιστημῆς δεκτικός. And it is of the last thing mentioned in this definition, that is science, that I am now to speak.

This operation of the human mind is what is called *discursus mentis*, and is performed by a faculty of the mind quite different from the *vous*, or that faculty by which it forms ideas. But this is a distinction which Mr Locke has not made; so that he appears to me not to have known what *science* was, any more than what an *idea* was.

By this discursive faculty we compare our ideas together, and in this way discover their connection, of which we first form propositions, and of propositions science: For, as all things in the great system of the universe are connected together, we must discover that connection, otherwise we can know nothing that deserves the name of knowledge or science. By thus connecting our ideas, and forming propositions and sciences, we also form *systems*, which is the greatest work of intelligence. The Supreme Intelligence perceives all those connections intuitively, and at once sees the whole system, and the connections of all its different parts. But we can perceive those connections only by the exercise of our discursive faculty, or that process of the human mind, expressed in Greek by the word *Διανοια*, and in English by the word *reasoning*. By that, and by that only, we form science, betwixt which and the *vous* Aristotle, as I have observed, has very properly made the distinction in the definition he has given us of man in his natural state.

And here, too, we may perceive in us a *Divinae particula auræ*, by which we are enabled to raise our thoughts, in some degree, to what we must suppose to be the perfection of the Divine intellect: For God has been graciously pleased to bestow upon us a faculty by which we are enabled to perceive the connection betwixt some ideas intuitively, as he perceives the connection betwixt all. It is by this  
faculty

faculty that we perceive the truth of self-evident propositions, without which faculty we never could have proved or demonstrated any thing; for if every thing were to be proved, nothing could be proved.

Thus, from the defects of the human intellect, I have endeavoured to give some idea of the infinite superiority of the Divine; and as we can have no knowledge of the Divine intelligence, except by the study of our own, I think there is no other way by which we can attain to any conception of the superiority of the Divine nature.

As intellect is the essence of an intellectual being, which constitutes his nature, and makes him what he is, it is evident that all his qualities must proceed from intelligence: And there is one quality, very remarkable, belonging to the intellectual nature, of which I am now to speak. It is the sense of the beautiful, the *το καλον*, as the Greeks call it, or the *pulchrum* and *honestum* of the Latins. As it consists in system, nor can exist in any subject where there is not a system greater or less, and as it is only by intellect that the connections and relations of things are conceived, without which there can be no system, it is evident that the beautiful is perceived by the intellect, and by it only. And here, too, we may be said to have in us a very considerable portion of the Divinity; for, as I have shown elsewhere \*, there is nothing which influences our actions more, even the most minute and trifling, than this sense of the beautiful; and, indeed, it may be said to be the governing principle in human life. That this principle must be infinitely more prevalent in the Divine Nature, I think is evident; for it must be infinitely more extensive than in us, comprehending systems that we cannot comprehend. And it must be the sole governing principle in the Deity: Whereas in us it is often thwarted and diverted from its purpose  
by

\* Vol. V. Book III. Chap. 7. also vol. II. Book II. Chap. 5.

by the passions of our animal nature, and by the errors of our judgment, as I have shown in the preceding volume, in what I have written on *the beautiful* \*. It is that which makes the happiness of the intellectual nature; for it is not merely the perception of truth, and of the order and arrangement of things in a system, but it is the beauty of such an order of things†, which gives delight to the intelligent being, and is his only delight. And, therefore, we must suppose that the happiness, even of the Supreme Being, must consist in the contemplation of the beautiful: And such was his happiness, when, as Moses tells us, he considered his work of Creation, and *saw that it was beautiful*, as the passage is translated in the Septuagint, and no doubt ought to be translated. And it was the greatest happiness that the beautiful could give, as it arose from the view of his own works; for though we are delighted with the beauty in the works of others, we are much more pleased with it in our own works. And it is in this way I understand what is said in Scripture of God doing things for his own glory, that is to enjoy the delight which the contemplation of the *beautiful* or the *glorious* gives him.

And here I conclude the comparison betwixt the Divine intelligence and the human; from which as it appears that the Divine intelligence is infinitely superior to ours, so I think it is shown that our intelligence is such, that we are very properly said in Scripture to be made after the image of God, or, in the language of a Heathen writer before quoted, to have in us *Divinae particula aerae*.

Our intellect, such as it is, is our governing principle in this life. But we are moved also by instinct to do several things. Of the difference betwixt instinct and intellect I shall speak in the sequel of this work. Here it will be sufficient to observe, that, when we are moved by instinct, we act as the brute animals do: But when we act  
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\* Vol. V. Book III. Chap. 7. also vol. II. Book II. Chap. 5.

† Ibidem.



by intelligence, we are guided by an opinion which we have formed that the action is good, by which I mean contributing to our happiness; whereas if the opinion we form is wrong, and if the action be truly not *good*, but *evil*, then we so far make ourselves miserable. So that upon the use we make of our intelligence depends our happiness or misery in this life; and I may add also in the life to come. If we employ our intelligence in studying to do all the good we can to our fellow creatures, and if we cultivate it by arts, sciences, and philosophy, the summit of which, and of all human knowledge, is Theology; (for, by the study of it, we are enabled to form some idea of God, and to learn that he is the author of all things in the universe); and if we study the wisdom and goodness which he has shown in his works, the contemplation of which wisdom and goodness is the greatest happiness that the intellectual nature can enjoy, then we are, by this use of our intellect, as happy as we can be in this life. But, on the contrary, if we employ it only in procuring means to indulge the pleasures of sense, or to feed our vanity, we are miserable. And there are two passions, for the gratifying of which if we employ our intellect, (I mean avarice and ambition), we are not only miserable, but the most mischievous animal upon this earth; for our intellect, when it is so employed, makes us much more mischievous than any other animal which has not the use of that faculty. Now ambition is the desire of power and pre-eminence; and avarice, which is the desire of wealth, is seldom or never separated from ambition, since wealth does in some degree give power and pre-eminence: And these two, joined together, have not only been the causes of most destructive wars, but have produced those great empires, which have destroyed so many of the human species and may be said to have desolated the earth.

Nor should we be surprised that our weak and imperfect intellect should be so much perverted, and applied to such improper uses, if



we consider that, in this life, it dwells in body, and in the same body is joined with our animal mind, which has so many bodily appetites and desires, and is the seat of so much passion and perturbation. And there are two of our passions which arise from the intellect itself; I mean vanity and ambition: For both these are necessarily connected with a sense of the *beautiful*, which, as I have said in more than one place, is essential to intellect. Now, no vain man desires fame or applause, except for a thing that he thinks is beautiful and praise worthy: The ambitious man, who desires power and pre-eminence, undoubtedly thinks that in these there is dignity and beauty: It is well known that a wealthy man is vain of his wealth, and consequently must think that there is something fine and beautiful in it: Even the luxurious man, who lays out so much money in furnishing his table with the greatest delicacies of eating and drinking, is not prompted to be at that expence, so much by his sensual appetites as by his vanity, which makes him think that there is great beauty in such a table, and in all the appurtenances of it; and it is chiefly for the same reason that men lay out so much money in fine houses, fine gardens, and fine equipages. When, therefore, we consider how prevalent this sense of the beautiful is in human nature, and what influence it has upon us, even, as I have shown, in things the most minute and trifling\*; and when we further consider that it is essential to that part of our composition which distinguishes us from other animals, I mean intelligence;—We should not be surpris'd, that a weak intellect, such as ours, should very often have wrong opinions concerning what is beautiful and praise-worthy; nor is there any thing but religion or philosophy which can give us true notions upon that subject.

## CHAP.

\* Vol. V. p. 131.

## C H A P. II.

*The Requisites of a System.*—1st, *It must consist at least of two Things.*—2d, *It must be a Whole, of which these Things are Parts.*—3d, *These Parts must not be alike.*—4th, *Neither must they be altogether different.*—5th, *There must be something Principal, to which all the other Things are subordinate.*—6th, *The System must not be infinite.*—Lastly, *It must be governed by General Laws.*—*The extent of the System of the Universe beyond our conception—but we may discover what is Principal in it.*—*It must be governed by fixed and general Laws, operating constantly and regularly—Impossible for us to discover all the connections and dependencies of the Universe;—but, from what we know we are to argue to what we do not know.*

**A**S I have said in a former Chapter that the formation of a system is what chiefly shows intelligence, we are now to inquire whether or not the Universe be a system. But, before we enter upon this inquiry, it is proper to consider what is required to make a system of any kind. And, 1st, There can be no system of one single thing that has no relation to any thing else; for there can be no relation but of two things at least, whether these things be parts of the same subject or be different subjects. 2d, Every system must be a whole, to which all the parts have relation; and these parts must also have a relation to one another. 3d, The things of which the system is composed must not be altogether alike, though they must, as I have said, have a relation to one another; for otherwise

there would not be variety sufficient to make a system. Neither, 4th, must all the things in it be altogether different; but there must be some resemblance even betwixt those things that seem most unlike: So that the *rerum concordia discors*, which Horace applies to the system of the universe, is true of every system in a certain degree. 5th, It is essential to every system that there should be something principal in it to which every thing else is subordinate; for this is what makes the system *one*: But, at the same time, it must be *one* in *many*; and therefore the more various the system is, that is the more parts it consists of and the more different these parts are from one another, (though all connected with and referring to what is principal in the system, and giving union to the whole), the more beautiful the system must appear to a mind that can comprehend it all in one view. The 6th requisite, I shall mention, of a system, is, that, though it may be very great, and greater than our limited capacities can comprehend, yet it cannot be infinite, but must have bounds; for otherwise it would be no system, as having neither numbers nor measure, which are absolutely necessary in forming a system. Lastly, The system must be governed by general laws; for, if every thing in it was governed by a particular law peculiar to that thing, it would not be a system.

From what I have said of the extent and variety that is necessary to make a system beautiful, it is evident, that if the universe be a system, and a beautiful system, as, I hope, I shall be able to show it is it must be such a one as cannot be comprehended by the human mind.\* It may, therefore, be said, that, as a system is necessarily a whole, if we do not see the whole, we do not see the system, nor can we certainly tell whether it be a system or not.

But to this I answer, That a system may consist of other systems lesser and subordinate; and the universe, if it be a system at all, is  
most

most certainly a system of systems. Now one of these systems we may comprehend; and we may also discover the relation this system has to some other: And by enlarging our knowledge in that way, and discovering more particular systems, and more relations of these particular systems to one another, we may come to discover what is principal in the grand system, to which every part is to be referred, not only those we have discovered, but those which, from the infirmity of our nature, we are unable to discover.

It is to be observed of the universe, that it differs very much from the works of human nature, such as paintings, sculpture, and buildings: For as these are not in motion, if the parts are fitly connected together, proportionate to one another, and such as make a whole, correspondent to the intention of the artist, we say it is a good piece. But, as the material world is all in motion, if it be a system, the motion of it must be carried on by certain determinate rules which we call *laws of nature*; and as there is a constant round of generation and corruption going on, these changes must be produced by certain fixed causes operating constantly and regularly: For if we could suppose the Deity to produce all the effects, we see, by a *fiat*, or by causes acting instantly and sometimes producing one effect and sometimes another, whatever end might be produced, there would be no system; and, in the case supposed, the universe might show the power of its author, and his goodness too, if the end attained was a good end, but it would not show intelligence, which is essential to every system. For there can be no system unless not only an end be proposed, but proper means employed to accomplish that end; and if the system be large, there must be a chain of causes and effects, some causes more remote and some more immediate, and no effect must be produced without an adequate cause.

Lastly, From what I have said of the nature of a system, suppose  
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the universe to be a system as perfect as Divine intelligence can make it, there must necessarily be many connections and dependencies of parts which we cannot see. We must, therefore, be contented to discover as much as we can of final causes; and from what we know, we must argue to what we do not know. Those who require to know the causes of every thing in the universe, and insist to see the principles of all things through their glasses or in their alembicks, I would advise to renounce the study of natural philosophy and metaphysics, comforting themselves with the thought, that these pursuits are out of the reach of human understanding, as they certainly are of theirs. I should be sorry, however, if they gave over their experiments, by which they may discover many things that the philosopher can make good use of, though they cannot.

C H A P.

## C H A P.      III.

*Of the System of the Universe.—There can be no System of Individual Things without order and arrangement.—All Things in the Universe consist of Genuses, Specieses, and Individuals.—These have the most intimate connection with one another, the Genuses being Actually comprehended in the Species, and Virtually comprehending them;—and upon this connection the Science of Logic depends.—Illustration of this by Substance, Body, Animated Body, and Animal.—The ten Categories of Archytas the highest Genuses, and the bounds of the Universe.—Excellence of Archytas's work.—Of the connection of the parts of the Universe with one another.—The higher Genuses both contain and are contained in the lower.—The same the case of Specieses;—and also of Individuals.—A System not only in Genuses and Species, but in Individuals.—Conclusion, The Universe is the most perfect System of Systems.*

**H**AVING said so much of the nature of system in general, and of what is required to make a system, I will now proceed to show that the universe is really such a system. And I think I shall prove it to be the most perfect system that can be imagined: For I shall show it to be a system of systems, all united together, so as to make but one system, of which every part has a relation to some other part, so that there is nothing single or by itself.

If there were nothing in the universe but individual things without



out order or arrangement, it is evident that there would be no system in it: But that is not the case; for all things therein consist of genuses, specieses, and individuals. That a genus is a system, being a whole, comprehending under it all the several specieses, which have the most intimate connection with one another, as each of them *actually* comprehends the genus while the genus *virtually* comprehends them all \*, is well known to every man, who has learned logic, without the knowledge of which no man can have an idea of the system of the universe, nor indeed a perfect idea of any system.

Of genuses there are many, but all in regular order, rising above one another, and so connected that the higher contains the lower. Thus the genus *animal* is contained under the higher genus, *animated body*, or the *το ἐμψυχον*, as the Greeks called it: For all bodies, as I have shown, are animated by a mind which moves them; but the animal has a mind, which not only moves it, but is sensitive, has appetites and desires, and consequently feels pleasure or pain. A higher genus, above *animated body*, is *body*; and above body is a higher genus still, viz. *substance*. And not only are there genuses of substances, but also of the *qualities* of substances; and there is a genus of *quality* itself, likewise of *quantity*, of *relation*, of *where* and *when*, of *doing* and *suffering*, &c. all which are enumerated in the fourth chapter of Aristotle's Categories. But it will be said, is there then no end of those genuses rising above one another; and can no bounds or limits be set to them? If it were so, then there would be no system of the universe; for, as I have shown, there can be no system of infinity. But a scholar of the Pythagorean school, Archytas by name, has numbered all the higher genuses, and reduced them to ten. Archytas's book is entitled Περὶ τοῦ ἑνός,

\* What the difference is betwixt a thing existing *virtually* and *actually*, I have explained, in p. 58 of this vol.

τοῦ, and very properly, as it comprehends all things in the universe. This work Aristotle has given us in his Logic, under the title of *κατηγορίαι*, as comprehending all the Praedicates of Propositions, which are the subject of his logic. I have said a great deal elsewhere in praise of this work of Archytas: But I will add here what is perhaps the greatest praise of this work; that it gives us a system of the universe, and of the whole of things, of which otherwise we could have no comprehension; and, at the same time, it sets bounds to the universe, which would be infinite if the genuses of things could not be numbered.

But it is not sufficient that a system have bounds and limits; for its parts must be connected together, so as to make a whole. Now, this, as I will show, is the case of the universe in a most eminent degree. And, first, as to the connection of the genuses with one another. And I say the higher genus both contains and is contained in the lower genus, which is the most intimate connection that can be imagined betwixt two things;—so intimate, that it appears at first sight to be impossible; but when explained it will appear to be truly the case: For the higher genus contains *virtually* the lower genus, which is produced out of it; and the lower genus must of necessity contain the higher genus *actually*.—Thus *animated body*, or the *το ἐμψυχον*, does *virtually* contain the genus *animal*, which proceeds from it; and, on the other hand, *animal* must contain *actually* the *το ἐμψυχον*, otherwise it would not be *animal*. In this manner *body* contains *virtually* both *animated body* and *animal*, and is *actually* contained in them; and in the same manner also all the three, *animal*, *animated body*, and *body*, are contained in the first of the Categories, viz. *substance*; while, at the same time, Substance is *actually* contained in each of the three. It is in this way that each of the ten Categories *virtually* contains all the genuses that are subordinate to it, and is *actually* contained in each of them: So that

here we have the most intimate connection betwixt each of the highest genuses and all the subaltern genuses. And this holds not only with respect to substance, as in the instance I have given, but also with respect to the qualities or properties of substances. Thus, for example, from the Category of *quantity* there are deduced two subaltern genuses, *quantity continuous* or *magnitude*, and *quantity discrete* or *number*. Now, both these are *virtually* contained in the Category of *quantity*, and likewise *actually* contain it; for both *magnitude* and *number* are *virtually* contained in *quantity*, being derived from it, and do *actually* contain it.

In this manner the genuses are connected with one another, the higher with the lower: And in the same manner each species is connected with its genus; for each genus *virtually* contains its species, and is *actually* contained in it. Thus the genus *animal* *virtually* contains *man*, which proceeds from it: And *man* *actually* contains *animal*; for otherwise he could not be *man*.

The specieses of things have not been numbered, as the highest genuses have been: But we are not for that to believe that they are infinite in number; for in a perfect system, such as that of the universe, nothing can be without bounds or measure. And this I apply even to the individuals of the lowest specieses: For though these be infinite with respect to our capacity, and therefore incapable of being numbered by us, they are, I am persuaded, not of number infinite, any more than the genuses and specieses, but very much more numerous: For, as the universe itself is not infinite, there can be nothing infinite or without bounds in it; and, besides, in a body of limited dimensions, such as our earth, there could not be room for an infinite number of individuals of any one species, much less for an infinite number of individuals of all the specieses. These individuals are so united with the species to which they belong, that  
each

each individual does actually contain in itself every thing that is in the species, or in the genus to which the species belongs: For, as that is essentially inseparable from the species, it must necessarily go to every individual of the species; as otherwise the individual could not be said to belong to the species, but must be a different being. Here, therefore, we have a most wonderful composition of all the properties belonging to the several genuses of the Category, to which the individual belongs; for as these must be all in the species, they must also be in the individual, which otherwise could not be truly said to be of that species. The individual *man*, therefore, must contain in himself, as I have said in another place \*, every one of the Categories, not only the genus *animal*, and the superior genuses of the *το ἐμψυχον*, or *animated body*, and *body*, and *substance*, but all the several Categories mentioned by Aristotle in his 4th chapter on the Categories, *quantity*, *quality*, *relation*, &c.

Thus, I think, I have proved that there is a wonderful composition and union of things in this material world in which we live; the higher genuses containing the lower, and being contained in them, which is the closest union that can be imagined: And, in the same manner, the several specieses are united with the genuses to which they belong. And each of the Categories, and every genus and species under it, make so many systems, all perfect of their kind, in each of which there is one thing principal and predominant, from which all the other things belonging to the system proceed, and with which they are intimately connected. Even every individual of each of the specieses is itself a system, comprehending all that belongs to the species and to the genuses above it; and it is a system, consisting of parts, some principal and others subordinate, arranged in proper order, which is the case of bodies organized, such as animals and vegetables, as is very well known to anatomists and botanists. And as we can only judge of the universe from what we

\* Page 45, 46, and 81.

sec of it in this our earth, we must suppose that all other things in the universe are thus arranged and divided into systems; wherein all the things of every system are so connected together, that not one of them is single and by itself, but is connected with some other thing in the system by the most intimate of all connections, that of *whole* and *part*.

And thus, I think, I have proved that the universe is, as I have said, a system of systems, making altogether the most perfect system that it is possible to imagine.

C H A P.



## C H A P. IV.

*A System perceived by us both in Generals and in Particulars;—but many Systems in the Universe which are not perceived by us.—The Categories a grand System, comprehending Substances and all their Accidents.—Substances exist by themselves:—Accidents are necessarily connected with other things.—The Categories comprehend all things in the Universe.—The Accidents numbered by Archytas, but not the Substances.—These, though not infinite, exceed our capacities to number.—They are either Material or Immaterial.—The Material comprehended in the Animal, Vegetable, and Mineral Kingdoms.—Of these the two first are Organized; the last not.—Immaterial Substances comprehended in the Intellectual, the Animal, the Vegetable, and Elemental Minds.—All the things of the Universe most intimately connected by containing or being contained in one another.—Examples of this.—All things being produced, preserved, and governed by the same Author, we must infer that what we cannot discover is of the same kind.—The perfection of the System of the Universe proves it to be the work of Supreme Intelligence.—This proof furnished only by Ancient Philosophy.—By the division of the Universe into Systems, our limited capacities can comprehend it—Every thing in the Universe is a Genus, a Species, or an Individual.—Truth arises from one Idea containing or being contained in another.—From Ideas are formed Propositions, either Affirmative or Negative.—Explanation of these.—How many things both contain and are contained.—The Syllogism founded upon all things containing and being contained.—Example.—Imperfection of Mr Locke's*



*Locke's definition of truth, from his ignorance of the connection of things in the Universe.—The Supreme Being comprehends all things, but is himself comprehended in nothing.—Of the wonderful likenesses of different Specieses and Genuses.—The Universe must be the work of Supreme Intelligence.—Of the reality of the existence of Genuses and Specieses.*

THE Universe, as I have said, is a system of systems. Many of these systems we perceive; and we find a system not only in generals, such as genres and specieses, but in particulars or even in individuals, which are contained in the lowest specieses. But there are certainly, in the universe, many more systems than we can apprehend: For, in the first place, as to individuals, which are systems as well as generals, they are infinite in number with respect to us, though there be nothing in the system of the universe that is really infinite; for, if it were so, the universe would not be a system. But, besides the individuals, there are certainly in the universe many genres and specieses, which every body must admit to be systems, but which we have not yet discovered; and, indeed, as we cannot conceive intelligence operating otherwise than in system, we must hold that there is a system in every thing in nature, both in particulars and generals. But besides particular systems, some of which only we can comprehend, we learn from that great work of Archytas, which I have so often mentioned, that there is a system of the whole of things in this universe, comprehending *substance* and all the *qualities* or *accidents* of substance. By substance we must understand, that which exists by itself and not necessarily in conjunction with other things without which it could not exist; whereas the accidents or qualities of things cannot exist by themselves, but can only exist in or with other things \* with which they are

\* These things are more fitly expressed by the Greek word *συμβεβηκота*, than by the words *quality* or *accident*.

are necessarily connected. This is the case not only of particular qualities, inherent in any subject, but of the relation it may have to other subjects; which relation cannot exist without these other subjects. Now, the Categories present to us a system of all things that exist by themselves and without other things, and likewise of all things that exist only with other things, being inherent in them or related to them; that is, in other words, it comprehends all things that we can conceive as existing in the universe.

These last mentioned things Archytas, as I have said, has numbered, and made them amount to nine, consisting of *quantity, quality, doing, suffering, &c.\** But as to Substances, he has not attempted to number them, though they are certainly not without number; but it is beyond our capacity to number them. And I think it was a great effort of genius to reduce to number even the qualities, which are so many and so various, but which are all comprehended in the general ideas of qualities that he has given us.

It is, therefore, evident that substance and its qualities must comprehend every thing in the system of the universe. But as substances are very various and very different from one another, I will say something more of them than Archytas has said. As to qualities, by the division he has made of them, I think he has explained them sufficiently.

Substances are either material or immaterial. Material substances are either the four elements, earth, air, fire, and water, by themselves, or their composition into animals, vegetables, or minerals; that is, the three kingdoms as they are called, which contain all bodies. These bodies are organized or unorganized: Organized, such as animals and vegetables; unorganized, such as earths, stones, and minerals.

And

\* See Aristotle's Categories in the beginning, where all the Categories of Archytas are recited.

And this division gives us the form of bodies, as the other gives us the matter of which they are composed. So that, with respect to substances material, we have all the variety in the system of the universe that can be imagined.

As to immaterial substances, or minds, we have also, in the system of the universe, all the variety that is possible; for there is the intellectual mind, the animal and vegetable minds, and that mind which only moves bodies in certain directions. By this last mind bodies are moved upwards as fire is, downwards towards the centre of the earth, as all bodies are, organized or unorganized, or in the line in which the body is impelled; and, lastly, there is a mind by which bodies are moved towards one another, or by which they are moved from one another, which two motions are commonly called *attraction* or *repulsion*: So that in minds, as well as in bodies, there is in the universe all the variety that can be imagined.

Those minds and bodies, so many and so various, are not only all contained in the system of the universe, but all so intimately joined and connected together, that there is not one thing in the universe that is not contained in another thing, or does not contain some other thing. And the things that do contain other things are also contained in them: That is to say, what produces another thing, does *virtually* contain that thing, even before it is produced; and after it is produced, it is *actually* contained in that thing. Thus, for example, the species *man* is virtually contained in the genus *animal*, and would have been so contained, if the species *man* had never existed; but when that species exists, then the genus *animal* is *actually* contained in it. The same is the case with respect to the individual *man*: The species *virtually* contains that *individual*, and contained him before he existed; but after he existed, the species is *actually* contained in him \*.

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\* See p. 61. of this volume.

Not only is the system of the universe the most comprehensive that can be imagined, comprehending every thing that we can conceive to exist, but all its parts are connected and united with each other by the closest union possible, that of *whole* and *part*. And not only is the universe so comprehensive a system, but it is, as much as we know of it, or can know of it, the most perfect system that can be imagined; and, as it is all produced, governed, and preserved, by the same author, we must presume, that what we cannot discover of it is of the same kind. That we cannot discover the whole of the system in this state of our existence is evident; but, to have found out the highest genuses, comprehending all things in the universe, and reducing them to number, was, I think, a wonderful discovery. Such was the discovery of Archytas, the Pythagorean philosopher, published by Aristotle in his book upon the Categories.

The universe is, as I have said, a system of systems: And in each of these systems things are so connected together, that even the individuals of every system contain not only every thing belonging to the species, but every thing belonging to the genus, and even to the genus above that till we come to the Category to which it belongs; of which I have given an example in the *individual man*, to which I refer\*.

Thus, I think, I have proved, that the universe is a system not only the most comprehensive, but the most perfect system that can be imagined; and that, therefore, it must be the work of intelligence and Supreme Intelligence. This proof is furnished to me by antient philosophy, without the knowledge of which I would advise no man to apply to philosophy of any kind, much less to Theology, the summit of philosophy: He may be a very good mathematician: He may be very learned in plants and minerals, and in the history of animals:

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\* Page 83.

He may discover, by telescopes, more stars than have yet been discovered; and, by microscopes and alembecks, he may improve his knowledge of the minute parts of nature:—But, without antient philosophy, I say, it is impossible that he can be a good Theologift, that is, can excel in the nobleft branch of philosophy, *Theology*.

The whole system of the universe, consisting of so many systems, creatures of our limited capacities cannot discover or comprehend; but many of the systems, of which it is composed, we have discovered; and we know not only that the universe is a more perfect system, by being thus divided into systems, than it would otherwise be, but that it is the only way in which it could in any degree be comprehended by our limited intelligences; for it is only by its being so divided that we could have had any comprehension of it.

From this division of things we discover a most important truth concerning the system of the universe, and which I think shows it to be a perfect system, more than any thing that I have hitherto mentioned. And it is this, that every thing in it *contains* or is *contained* in some other thing; and that the same thing some times both contains the other thing and is contained in it: But not in the same sense; for one of the things contains the other *virtually* or *potentially*, but is contained in that other thing *actually*. Thus, every genus, as I have said, *virtually* contains all the specieses under it, and every one of these specieses does *actually* contain the genus, otherwise it could not be of that genus; for the species is composed of the genus, and of what Porphyry calls the *specific difference*, that is what distinguishes it from the genus. Again, every species *virtually* contains the individuals under it; and every individual *actually* contains the species, otherwise it would not be of that species\*. Now, every thing in the universe is either genus, species, or individual: For that is a division of

\* See what I have said of the difference betwixt *containing virtually* and *actually*, p. 62. of this volume.



of things that goes through the whole universe; and, therefore, I have made it the foundation of my doctrine of the system of the universe. Now, to know what contains another thing, or is contained in that other thing, is truth or science. All our ideas, like every thing else in the universe, do, each of them, contain another idea, or are contained in another idea, or both contain and are contained; and, as our ideas are all formed from things in the universe, it is most natural that they should have this property, which is common to all things in the universe.

Of our ideas propositions are formed; and these propositions are either affirmative or negative. Every affirmative proposition asserts that the praedicate either contains the subject or is contained in it\*. And this leads to a distinction, and a very important distinction, of propositions, which Aristotle makes†. In some, he says, the *praedicate* contains the *subject*: And these propositions, according to him, are καὶ ὑποκειμενον; as when the *genus* is praedicated of the *species*, or the *species* of any *individual*. In others the praedicate is contained in the *subject*: And these he calls ἐν ὑποκειμενω; as when any quality or accident is praedicated of the subject to which it belongs, such as, *A man is good or bad*;—or when a less general idea is praedicated of a more general, as when *man* is praedicated of *animal*; in which last case the praedicate does not contain the subject, nor can contain it, but is contained in it, being a part of it.

This is the case of affirmative propositions: As to negative, they  
M 2 assert

\* See vol. V. p. 152. and 153. where I have explained the meaning of the words *praedicate* and *subject*; showing that the *Praedicate*, or *greater term* as it is called, is what is affirmed or denied of any thing, and that that, of which it is affirmed or denied, is the *Subject*, or *lesser term*; and these two are connected together in the syllogism by what is called the *middle term*.

† On this distinction see Vol. I. of this work, p. 383.



assert that the praedicate does not comprehend the subject, nor is comprehended in it. But though the praedicate of that particular proposition do not contain the subject, nor be contained in it, it will not from thence follow, that there is any idea which does not contain some other idea, or is not contained in it: For though the praedicate of the negative proposition do not contain the subject, nor be contained in it, yet there must be some other subject, which it contains or which is contained in it; and that must be one or other of Porphyry's *five words*\*, viz. *genus*, *species*, *specific difference*, *peculiar*, and *accidental*; which comprehend all the things of the universe. Now, if it be any one of these, it must either contain or be contained in something else: If it be a genus, it must contain a species: If it be a species, it must contain individuals: If it be a *specific difference*, it must be contained in some genus; or, if it be *peculiar* or *accidental*, it must necessarily be contained in some subject of which it is a *peculiarity* or *accident*†. And thus it appears, that a negative proposition is no exception to the rule I have laid down, that every thing in the universe either contains or is contained in something else: To which I will add, that many things both contain and are contained. A lower genus is contained in a higher, and, at the same time, contains the species under it. Again, the species is contained in the genus, and, at the same time, contains the individuals under it. And what appears at first sight to be an incredible paradox the same thing, as I have shown, both contains and is contained in some other thing‡: So that there appears to be a most wonderful union, the closest that can be imagined, of the things of this universe with one another; and which shows, as I have said, the system of the universe  
to

\* These five words comprehend every thing belonging to nature or philosophy.—See what I have said of them, p. 32. and 55. of this vol.—also in preface to vol. 3. p. liii.

† With respect to the meaning of the word *accident*, see p. 86. of this vol.

‡ See p. 81.

to be the most perfect that can be imagined; and, indeed, more perfect than we could imagine it to be, if we did not know from fact and observation that it was such.

Nothing, therefore, is more certain than that, besides the connection which things of the same species and genus have with one another, every thing on this earth comprehends or is comprehended in something else; or, as I have said, both comprehends and is comprehended. And thus every thing is a *whole* or a *part* of another thing, than which no closer union can be imagined.

This doctrine of all things containing or being contained in something else, is not only the foundation of the truth of all affirmative propositions, but of the truth of all reasoning; and this is very natural, all reasoning consisting of propositions. But of the nature of reasoning, and how it is all reducible to syllogism, I have spoken at length in the preceding volume\*, where I have shown that it depends upon the doctrine of *containing* and *being contained*; so that all reasoning is reducible to these two propositions, that if A contain B, and B contain C, then A contains C; or if A be contained in B, and B be contained in C, then A is contained in C.—The example I have given, in the passage above quoted, is a syllogism, concluding that *man is a substance*; the meaning of which is, that the general idea of *substance* comprehends *man*, or, in other words, that *man* is a species of the genus *substance*, that is to say, is contained in it: At the same time it proves that *man* contains the genus *substance*; for, as I have shown, the *genus* contains the *species* under it *virtually*, at the same time that the *species* contains the *genus actually*†:—So that in this single syllogism there is a proof not only that *man* contains *substance*, but that he is contained in it. In this case the *praedicate*, or greater term of the conclusion, both contains the

*subject*,

\* See vol. 5. p. 152.

† See p. 56.—61.

*subject*, and is contained in it. But, if the praedicate of a proposition only contain the subject, or be only contained in it, the conclusion will be the same; for if A contain B, but is not likewise contained in it, and if B contain C in the same manner, then A will contain C. And, again, if A be contained in B, but does not likewise contain it, and if B be contained in C in the same manner, then A will be contained in C.

Thus it appears that all truth, even the truth of syllogism, arises from that general proposition which I have maintained, that all ideas contain or are contained in other ideas; and that, from thence, the truth of all propositions, of all syllogisms, and of all arts and sciences, arises.

And here it may be observed, that upon this principle of mine, that every thing in the universe contains or is contained in something else, the whole doctrine of the syllogism is, I think, most clearly explained, without dividing the syllogism into figures, and these figures into modes, as Aristotle has done; by which I think he has made the doctrine of the syllogism more intricate and perplexed than was necessary: For the whole art of it comes to this, to find out a middle term, which either contains the Subject of the Conclusion, or is contained in it, and at the same time contains the praedicate of the conclusion, or is contained in it. So that the whole doctrine of the syllogism comes to this, as I have said, that, if A contain B, which is the *middle term*, or be contained in it, and if B contain C or be contained in it, then A contains C or is contained in it.

If Mr Locke had known this connection of things in the universe, by which every thing contains or is contained in another thing, he would not have given us such a definition of *truth* as he has given, when he tells us that truth consists in the agreement or disagreement

of

of our ideas, without letting us know wherein they agree or disagree: So that his definition of a thing of such importance as *truth*, not only in philosophy and science, but in the common business of life, is most ridiculously imperfect; and it shows very plainly that he knew as little of the nature of *truth* as he did of the nature of ideas, of which truth must be composed. Whereas, if he had known that, as all things in nature contain or are contained in something else, so ideas contain or are contained in one another; and, therefore, when the proposition is affirmative, the idea of the praedicate contains or is contained in the subject; and if we will use the language of Mr Locke, that may be called the *agreement* of two ideas: Whereas, if the praedicate of the proposition does not contain the subject, nor is contained in it, then the two ideas may be said to *disagree*; and in this way Mr Locke's language of *the agreement or disagreement of ideas*, may be made intelligible, which, as he has expressed it, is quite unintelligible.

To conclude this subject, upon which I have said so much;—If we could believe that there was no connection betwixt things in the universe, such as I suppose, but that every thing existed by itself, and *did not contain*, or *was not contained* in any thing else, the consequence would be, that there would be no union of things in the universe, which, in that case, would not be *one* but *many*, and consequently no system, but a confused mass of things: Whereas, upon the supposition of things in it being so united, as I suppose, it must be the most perfect system that can be imagined; in which there is the most intimate connection and closest union possible, that of *whole* and *part*.

This wonderful connection of things in the universe, by which there is nothing that does not comprehend some other thing, or is not comprehended in it, that is to say, is not either a whole or a part;—

or

or that does not both comprehend and is comprehended, that is, in other words, is a whole with respect to one thing, and a part with respect to another thing;—is such an union of the several parts of the universe, as makes it a system the most perfect, as I have said, that can be imagined; and yet it has not been observed, as far as I know, by any person who has treated of the system of the universe, by which, and which only, we can conclude that the universe is produced by Supreme Intelligence. The division of things into *genuses* and *specieses*, from which no doubt it follows, that every *species*, and every individual under that *species*, is contained in the *genus*, is known to every man who has learned the elements of logic. But that every thing in the universe, which can be made the *praedicate* or *subject* of a proposition, contains or is contained in some other thing, or both contains and is contained, has not been attended to by any philosopher, antient or modern, as far as I know; and yet it makes the system of the universe more perfect than even the division of things into *genuses* and *specieses*, as it leaves not any one thing single and by itself, but shows that there is nothing which is not connected with something else, and by the most intimate connection possible, that of *whole* and *part*. And it is this connection of *whole* and *part* that makes, as I have shown, all truth and science.

What makes it the more surprising, that this connection of things has never been thought of, is, that we daily speak of *generals* and *particulars*: And it is evident that every thing in the universe must be either a general, or a particular comprehended under some general; so that all things in the universe are *generals* or *particulars*: Which comes just to what I have said that every thing in the universe comprehends or is comprehended in some other thing, or both comprehends and is comprehended; for one general idea may comprehend another less general idea, and be itself comprehended in another idea more general.

And



And here it is proper to make a distinction betwixt the Author of the universe and the things which he has produced. These, as I have shown, either comprehend or are comprehended, or the same things both comprehend and are comprehended: Whereas the great Author of the universe comprehends all those things which are produced by him and are an emanation from him, while he himself is comprehended in nothing, but is, as I have shown, self-existent.

Besides all these connections of things, there are certain likenesses, not only of things of the same genus or species, but of different genera or species. Thus, some plants are so like animals, that they make a class of beings, which are called *Zoophytes*; and the Coral is so like a mineral, that it was always held to be such, till lately that it was discovered to be an animal.

We may, therefore, conclude that, upon the whole, there is a wonderful connection of things in this lower world, such as could not be produced by chance, nor by any intelligence less than the Supreme, which has formed the system of the universe.

There are some of this age I know, and calling themselves philosophers too, who will think, that all that I have said, at so great length, of the order and arrangement of things in the universe, is no more than the order and arrangement of our own ideas, but without any foundation in nature: And particularly that the division of things into genera and species, which I make to be the chief thing in the system of the universe, is altogether an operation of our minds, by which we collect from particular things likenesses and resemblances, of which we form what we call genera and species; and then in this way we arrange things for our more ready comprehension and memory of them. Upon this subject I have said a good deal.



where\* ; and I will only add here, that a man, who sees and observes the different animals of this earth, such as *man*, *horse*, and *ox*, &c. cannot believe that the distinction of these different specieses is merely a work of our imagination, without any foundation in nature. And when he considers the connection and resemblance that there is betwixt the three animals I have mentioned and other animals upon this earth, he must be convinced that there is a genus, or more general idea, which comprehends not only these animals, but all the animals that we know. This is that genus which I call *animal*, and which, therefore, is no more a fiction or creation of our minds than the several specieses of animals I have mentioned. And, indeed, to deny that there is an order and arrangement of every thing in this universe, and particularly of animals, according to their genuses and specieses, is to deny that there is any order or any system of things in the universe. That there is such an order in animals, I think, is evident not only to our reason but to our senses ; and besides it is revealed to us in the first chapter of Genesis, where we are told that God created all animals, of the earth, the water, and the air, *after their kinds*, that is, arranged them according to their several genuses and specieses.

\* In the preceding chapter.

## C H A P. V.

*A Proof of the System of the Universe from the Phaenomena of the Heavens.—The Luminaries in the Firmament as useful as they are Beautiful and Magnificent:—They set bounds to duration; and give us the succession of Day and Night, of Seasons and Years, and the generation of Plants and Animals.—Reason why all this magnificence, order, and variety, which excites the admiration of the Philosopher, does not even rouse the attention of the Vulgar Man.—Of the Solar System, and the agreement of the motions of the Bodies composing it.—Reasons for supposing the fixed Stars centres of other Systems; and that all are parts of the great System of the Universe.*

**I**N the preceding Chapter I have given a proof of a system in the universe, taken from the whole of things existing in it; which, I think, is more convincing than what is taken from particular phaenomena. There is, however, one phaenomenon, which deserves particular attention, as it is a most wonderful phaenomenon. The phaenomenon I mean, is the Heavens above us, or the Firmament, as it is commonly called, which, as our Scripture tells us, declares the glory of the Lord. And it is certainly the most visible sign of that glory, and such as must appear to the philosopher the greatest of all wonders: And it would appear so even to a vulgar man, who, we may suppose, had been born blind, but got his sight when he became a man and had acquired the use of reason, having cultivated his mind by arts and sciences to a certain degree, so far as to know what is uncommon and extraordinary in any of

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them,

them, which we know many blind men do. The first sight he had of this wonderful canopy of heaven, would affect him with an enthusiastic admiration, such as no object of this earth could produce in him.

But not only is our firmament, adorned as it is with so many celestial bodies, the most magnificent spectacle that can be imagined, but it is most useful, and of absolute necessity, for carrying on the system of nature in the world which we inhabit; for it is by the luminaries of our sky that we enjoy the first created, and the most valuable thing in this world; I mean light. Our grand luminary is the sun, which gives us light by day: But our planet has a satellite, I mean the moon, which gives us light in the night, when we no longer see the sun.

By the motion of the sun and moon we set bounds to duration, (by which I mean the continuation of the existence of things), and measure it, and make what we call *time*, which is duration measured: For that can only be done by motion, and not by every kind of motion; but by motion, which is itself its own measure. Now that is only motion in a circle, or ellipsis, which revolves into itself, and in that way measures itself; which motion in a straight line, or any other than the two motions I have mentioned, cannot do. In that way, by the motion of our earth round its axis, we have that measure of Time which we call Day, as distinguished from Night: By the motion of the moon round the earth we have that measure of time we call a month; and by the motion of our earth round the sun we measure a year.

To the sun we owe not only the succession of day and night but of seasons, and the production and ripening of vegetables according to their different kinds, and also the generation of animals according to their different specieses; which could not be, any more than

than of vegetables, without the heat of the sun. And not only is our heavens the grandest and most magnificent spectacle that can be imagined, and at the same time of the greatest use, but there is a beautiful variety in it, which must give great pleasure to every attentive and intelligent spectator: For, in the first place, there is in it the variety of sunshine and cloud, and consequently of light and shade upon the landscape. Sometimes the whole sky is clouded, and consequently the whole landscape under a shade. At other times only a part of it is clouded; and then we have likewise a variety of light and shade in our sky and landscape: And when there is that variety in our sky, it is a pleasure to see the sun or moon *immersed* as it were in a cloud, and then *emerging*. Besides this, the colours and figures of the clouds are very various: For sometimes the colour is very dark and gloomy; at other times the sky is *fleec'd*, as one of our poets expresses it, with very light clouds. And as to the figures, they are very various; for sometimes they form as it were hills, and valleys betwixt them; and we have mountains of snow, and also mountains of gold. And as to the sun, not only does he exhibit, while he is in our sky, all that variety of prospect which I have mentioned, but in the morning, before he appears, he adorns our sky with fine colours, and he does the same after he disappears in the evening.

And here it may be observed how wonderful the wisdom of God has contrived, that, by the motions of the same body, (I mean the earth), and at the same time, the succession of day and night, of seasons and of years, are all produced; for, as I have said, by the motion of the earth round its axis, the succession of day and night is produced, and by its motion round the sun, the succession of seasons and years; while light and shade are so equally distributed, that all parts of the earth, though situated in climates so different, and with such different lengths of days, enjoy the light of the sun an equal

equal time in the year. Now it is a proof of great wisdom, to produce the greatest number of effects by the fewest causes possible.

Although our canopy of heaven be so magnificent a spectacle, and the bodies in it be of such necessary use for our earth, yet, as Horace tells us,

Hunc solem, et stellas, et decedentia certis  
Tempora momentis, sunt qui formidine nulla  
Imbuti spectent \*.

The reason of which is, that they are seen every day, and are so obvious to common observation, that they do not at all excite the wonder or even the attention of the vulgar †. For there is this difference betwixt the philosopher and the vulgar, that these admire nothing which is constantly under their eyes, or of which they have the daily use: Even as to the arts invented by men, such as language and writing, though they be most wonderful arts, and of most difficult invention,

\* Lib. I. Epist. 6. By *formido* I understand here not *fear*, which is the sense of the word in common use, but an *enthusiastical admiration*; for *admiration* is the subject of this epistle, which begins,

Nil admirari, propè res est una, Numici,  
Solaque, quae possit facere et servare beatum.

And what follows, where he speaks of the *munera terrae*, and of the *wealth of Arabia and India*, and of the *shows and applause* of the Roman people, I think plainly indicates, that by *formido* he cannot mean *fear*, but *admiration*; for these things I have mentioned could not create *fear* but *admiration*. This however is a meaning that is not given to the word by any commentator that I know.

† Upon this subject there is a fine passage in Cicero, where he supposes, as I have done, that a man, from eternal darkness, should at once see the light and appearance of the heavens. “Quaenam species coeli videretur?—Sed assiduitate quotidiana et “consuetudine oculorum, assuescunt animi; neque admirantur, neque requirunt rationes earum rerum, quas semper vident: Proinde, quasi *novitas* nos magis quam “*magnitudo rerum*, debeat ad exquirendas causas, excitare.”—De Nat. Don. Lib. II. Cap. 38.



invention, (particularly language, which, I think, I have shown\* could not have been invented without supernatural assistance), yet, as they are learned by all of us when we are very young, and as we are in the constant use of them, the vulgar think that there is no art at all in them, but mere practice and habit; whereas the philosopher admires them, and knows them to be not only most useful but most wonderful arts: For by one of them our ideas are made audible; and by the other they are made visible, together with the sounds of the language which expresses them. But those works of God, which I have mentioned, being the works of Supreme Intelligence, we ought to admire infinitely more than any thing produced by the imperfect intelligence of man.

And not only are the heavens the most magnificent spectacle, and most useful to our earth and its inhabitants, but the motions of the bodies in it are so regular, and so concordant with one another, as to make a wonderful system: For all the planets, to the number of seven, including our earth, are moved round the sun, their common centre, and with him constitute what we call our solar system; and as they are all parts of the same system, their several motions are all governed by the same laws†. And Sir Isaac Newton has discovered to us, that not only the planets have this agreement of their motions among themselves, but that a most wonderful analogy exists betwixt the motions of them all and of projectiles on earth, by which he has been able to give us the completest system of astronomy that ever was; and, at the same time, has discovered a connection betwixt heaven and earth, and betwixt the motions of the smallest and greatest bodies, and the most remote from one another, which no philosopher before him ever dreamed of; and which very much enforces my arguments tending to show the universe to be a system.

And

\* See Book II. Chap. 1. of Vol. IV. of this work.

† See p. 38. of this vol.



And this, I think, is truly the philosophy of his *Principia*, though I do not know that that use has ever been made of it: For though Sir Isaac was not a philosopher, and has erred very much, as I have elsewhere shown, in the account he has given of the cause of motion, he was no doubt an excellent mathematician and astronomer.

What I have said, with respect to our solar system, may suffice in a work of this kind. But there is no reason to believe that such an host of fixed stars is merely for the purpose of adorning our night-sky; but on the contrary, from analogy, our only rule of judging in such cases, there is the greatest reason to think that they are all suns, having each their attendant planets, and making so many different solar systems, all parts of the grand system of systems, the universe, and which, some way or another, must be connected with our solar system: And the late Dr Wilson of Glasgow has imagined one way in which they may be connected: For he supposes that there is a centre of the universe, as well as of our solar system; and that round this centre, (be it some greatest of all suns, or only a central point), all the several systems, of which the universe is composed, are moved. The thought is grand and altogether new, and, if we may judge of what is unknown by what is known, very likely to be true.

C H A P.

## C H A P. VI.

*Of the System of Animals on Earth:—1st, Man;—He the most artificial System of all.—Of the different parts of his System, particularly of his Intellectual part;—he is an Epitome of the whole Universe;—a most convincing proof of the existence of Supreme Intelligence, arising from consciousness, the source of all our knowledge.—Many other Specieses of Animals;—each of these Specieses a System,—and even every Individual.—The same the case of Vegetables.—A System also in Minerals.—The Universe only comprehensible by us by the divisions of the parts of it into Genuses and Specieses:—All these divisions end in the Categories,—and the Categories in the Supreme Being.—Of the tendency of Nature to the one:—Our progress in knowledge the same;—it ends in the knowledge of God.—Everything in the Universe suited to the purpose intended by Nature:—This exemplified in the Animal race, with respect to its preservation and continuation.—The Supreme Intelligence of God proved by his works.—The System of the Universe no less beautiful than perfect.*

**I**N the preceding Chapter I have treated of the system of the Heavens, and have shown how much that system is connected with the system of things here below. In this Chapter I descend from the heavens to this our earth; and am to treat of what is of the greatest value there, the animal race. And I will begin with what is most valuable of that race, viz. *man*, the noblest animal here below. He is by himself a wonderful system,

being composed of a body most artificially formed, as anatomists well know, and also of three minds, the intellectual, the animal, and the vegetable\*, besides that mind which belongs to his body, by which all bodies fall, that is, tend towards the centre, or go on in the direction in which they are impelled; but which, as it is common to all bodies, unorganized as well as organized, I do not reckon as any part of the composition of man, by which he is distinguished from other animals. And this so wonderful composition is so well arranged and put together, as not only to make us fit to be the governing animal here below, and to serve all the purposes of a most artificial life in this world, but to prepare us for a better in the next, if we make a proper use of the talents that God has bestowed upon us, and of our time.

Of the composition of man, and of the Trinity in him, I have spoken elsewhere†; and I will only add here, that our intellectual or governing mind is quite different and separate from the rest of our composition, and particularly from our body, of which it is not a quality, as some people imagine, but a substance altogether different. What proves this is, that the intellectual mind acts by itself without the body, which, so far from assisting it in its operations of thinking

\* There are, I know, many of our modern philosophers who maintain that there is but one mind in our bodies; and that it is the same mind which thinks, moves our bodies, concocts and digests our victuals, nourishes us, and makes us grow. But, as I have elsewhere observed, (Vol. I. p. 166.) it is impossible to suppose that the same mind should perform operations so exceedingly different: And, besides, such a supposition would put an end altogether to the system of man; for it is the three minds in him which make him a system. But I think the opinion of an Alexandrian philosopher, whose name I have forgot, is very probable, that the animal mind is produced out of the intellectual, and the vegetable out of the animal: For it is according to the order of nature, that what is inferior of every kind should be produced out of what is superior of that kind; and it makes the Trinity in our little world most perfectly resemble the Trinity in the great world.

† Page 44.

thinking and reasoning, is an impediment to it. Now what acts, exists; and what acts by itself, must exist by itself. This mind, therefore, does not perish or go to dust, as the body does when the man dies, but must continue to exist and to act as a substance by itself. And in this way I think it is demonstratively proved, that our intellectual mind, or soul, is a substance quite different from our body; in which respect we may observe how different it is from our other two minds, the animal and vegetable, which cannot act, nor even be conceived to exist, without the body.

I will farther add, concerning this mind, that as its actions and operations are so different from those of body, and altogether unconnected with it, we must suppose that it is a substance not material but immaterial. And as we are sure that it does not perish with the body, but exists and acts after the body is at an end, we must suppose it not to be mortal like the body, but immortal\*.

In man composed, as I have said, of body, and the intellectual, the animal, and the vegetable minds, is contained the whole *τὸ πᾶν* of the Pythagoreans, which was reckoned so great a discovery†. In short, man is such a system, composed of every kind of things in this universe, of body, and of the intellectual, the animal, the vegetable, and the elemental minds, that he may be said to be an epitome of the universe; and is, therefore, very properly called by the antients a *microcosm*, or *little world*: And he alone is, I think, a proof of the existence of God; for no man can believe, nor is it maintained by any philosopher, that man has made himself. He must, therefore, be the production of Supreme Intelligence; nor can we conceive that any other intelligence could have produced a system so wonderful.

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And

\* See what I have said on this subject in Vol. I. Book II. Chap. XII.

† See p. 36. of this volume.

And this proof, of the existence of such an intelligence, is to us the most convincing that can be imagined; for it proceeds from consciousness, which to us is the most convincing of all evidence, as convincing as the evidence of our own existence, which we know in the same way by consciousness: In which way Des Cartes has very properly proved his own existence; for he has said, I think, *therefore I am*. And in this way we know not only that we have a mind which thinks, but another, as I have shown, which moves body; so that we perform all the offices of mind, which consist of thinking and moving body \*.

The system of the great world may be said to be a still more convincing proof, as it comprehends man and every thing else existing. But it is a proof not so easily apprehended by our finite minds, as a proof arising from our own composition, which we know by the most certain of all knowledge as I have said, that is consciousness.— We also know, in the same way, that most important distinction betwixt mind and body, namely, that it is mind which moves, and body that is moved; a distinction which may be said to be the foundation of the whole philosophy of nature. We also discover, by the study of ourselves, our progress in this life from the mere animal to the intellectual creature; for we begin with perceptions of sense, which are the foundation of all our knowledge here below. Of these we form ideas in the manner I have already described †; which is the first operation of our intellect; and of ideas we form science. And in that way recover the use of intellect which we had lost by our fall; and so become a creature not only capable of intellect and science, (as Aristotle has very properly defined man in his natural state), but a creature of intellect and science in actuality and energy.

And thus it appears, that by practising the precept of the Delphic God,

\* Vol. I. Book I.

† Page 67.—and the passage quoted from Vol. IV.

God, that is, *to know ourselves*, we not only lay the foundation of all inferior sciences, but we may rise to the summit of all science, the knowledge of God; so far as he can be comprehended by our limited capacity.

And here, I think, we cannot sufficiently admire the wisdom and goodness of God, who has so formed us, that by the study of ourselves, that is by consciousness, the most certain of all knowledge, we can attain all the knowledge that it is possible we can attain in this life, and so prepare ourselves for a better life to come, in which we are to attain to the greatest perfection that our nature is capable of.

This composition, of body and so many minds, makes man the most various and most curious animal upon this earth, and when we join to that his progress through so many different states, the most wonderful animal, and which should be the study of every man who loves knowledge, if we were not so much connected with him as we are\*.

But there are very many other specieses of animals on this earth besides man, more, I believe, than have been numbered; and each of these specieses is a system; and so is also every individual of these specieses: So that not only as many as there are of specieses, but as many as there are of individual animals, so many there are of systems: For every anatomist knows, that each individual animal is a system; and the same is the case of vegetables: So that the division of all things in the universe, into systems, still goes on with respect to animals and vegetables; and therefore, as I have said, the universe is a system of systems of various kinds.

As

\* See what I have said on this subject at the end of last vol.



As vegetables, and all things produced on this earth, are for the use of animals, so the number of animals must be prodigious, much greater than we can number; for they are to be found every where, inhabiting the earth, the air, and the water: And they are each of them directed by the wisdom and goodness of God, as shall be shown in the sequel of this work, to live in the most proper way, suited to their nature, and to that part of the earth which they inhabit; and also to propagate their kind and rear their offspring, so that the race may be continued, and nothing be defective in the system of nature.

Minerals also are of different kinds, which are distinguished from one another by different qualities.

By the division into genera and specieses, all things here below are so arranged and distributed as to be comprehensible by our finite capacities; and in this way we can comprehend and distinguish, from one another, the three kingdoms, as they are called, of this earth, the animal, the vegetable, and the mineral, and the several specieses under these.

Thus, I think, I have shown, that there is a wonderful number of systems on this our earth; *first*, the systems of individuals, of number incomprehensible by us; *2dly*, the systems of the lowest specieses comprehending those individuals; *3dly*, the genera comprehending those lowest specieses; and, *lastly*, the higher genera comprehending the lower; and so rising above one another, till they come to the highest genera, that is the *Categories*, or *Universals* as they may be called: So that here we have systems rising above one another, and so connected, that the same system is a genus with respect to those below it, and a species with respect to those above it.

Those

Those highest genuses comprehend not only the things of this earth but all things in nature. If, therefore, they could not be reduced to number, the system of the universe would be infinite, and therefore, as I have shown\*, truly no system at all; for there can be no system without those bounds and limits which are given it by number; which, therefore, was held by the Pythagoreans to be essential in the system of the universe, as giving it both order and arrangement, together with bounds and limits. The discovery, therefore, of the doctrine of the Categories, which was made in the school of Pythagoras, besides the other praise that I have bestowed upon it, may be said to have made a system of the universe which was not known before.

All these several genuses and specieses, contained in the Categories, and even the Categories themselves, end in *one*, I mean the Supreme Being, who contains them all.

And here we may observe the tendency of nature in its progress to *the one*. The individuals are reduced to *one* in the lowest specieses: The specieses go to a greater *one*, the *genus*: The genus to a greater *one* still; that is to a higher genus of which it is but a species: And so on from genus to genus till the progress ends in the Categories, and they in the Supreme Being, the Author of all things in the universe. It, therefore, appears that Plato has very well defined a general idea, such as a species or a genus, to be *one in the many*; the more general the idea, the greater the number of *the many* in it, and the more comprehensive *the one of that many*, till at last we come to the *one not in the many* only, but *in all*: From which we may see the truth before noticed of that doctrine of antient philosophy, that all things in nature are *the one in the many* and *the many in one* †.

It

\* Page 76.

† Page 45.

It may be further observed on this subject, that the tendency of our minds, and the progress of our knowledge, is always *from the many to the one; from the many individuals to the specieses; and from the specieses to that one* we call a *genus*; from that to a *greater one*, that is a *higher genus*; and so on from lesser to greater ones, till we come to the Categories: And even the Categories, though ten in number, may be considered as a great *one*; for they are all reducible to *substance* and its *qualities* or *accidents*. From the Categories we proceed to the greatest one of all, who is not only *one in the many*, but, as I have said, *one in all*; so that the whole progress of our knowledge leads us to the contemplation of the Supreme Being, that is, to Religion. And here we may observe the goodness of God, who has formed the system of man so that, by the progress of his intellect in this life, he is naturally led to the knowledge of God, which is the greatest happiness, as well as the greatest perfection, of his nature.

Before I quit the subject of Divine Intelligence operating in the things of this earth, I must observe that every thing in it is perfectly well fitted to answer the purpose, for which, by nature, it is intended. And this is particularly observable in animals: For, suitable to the structure of the body of every animal, there is a mind given, by which not only the individual is preserved, but the kind continued; for no animal is made for himself alone, but is more or less connected with his kind. Thus, in every species, the male and female are made for one another, and not only copulate for the propagation, but, in very many specieses, join their care in rearing the offspring. In other specieses the animals herd together; and in some of them it is found necessary that they should not only live together in herds, but in a society that may properly enough be called political, such as the bees and ants.

Thus

Thus it appears, that in every species of animals there is a system, not only of the individual but of the kind, by which the animals of that species are more or less connected together; and the end proposed by that system is the preservation both of the individual and the kind. But this is not all; for we find that some specieses are connected together so as to make but one system; which is the case of the animals of prey and those they prey upon: And all of every kind are inseparably connected with the earth and the other three elements, the air, the water, and fire, that is heat.

Besides the common relation that animals and vegetables have to Mother Earth, they have resemblances to one another, of which we are daily discovering more and more; and many substances, that were believed to be vegetables, are now with great certainty discovered to be animals. These come so near one another, and have such resemblance, that they may be said to run into one another by degrees hardly perceptible. This, as I have said\*, is the case of the coral, which was formerly believed to be a vegetable, but it is now found to partake of the animal nature; so that it is that kind of substance which, by the antients, was called a *Zoophite*; for so great is the union of the system, that things, appearing at first sight quite different, such as animals and vegetables, come as near as possible to one another, and sometimes run together so as to make but one system.

Thus, I think, I have proved, that the things of this universe, as far as we know or can know of it, are most intimately connected, being divided into genuses, specieses, and individuals, which are all so many systems; for not only the genuses and specieses are systems, of which no man can doubt, but every individual, as I have shown†, is also a system. The universe, therefore, as I have

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P

said,

\* Page 97.

† Page 86.

said, is composed of systems; and these systems are all so connected together, as to make a system of systems; for that such is the case, is evident from this, that all things in the universe are either *Ουσιαι* or *Συμβεβηκота*, that is *substances* or *accidents*: Which last we commonly express by the word *quality*; but the word *accident*, as I have elsewhere observed\*, expresses much better the meaning of the Greek word *Συμβεβηκота*, which imports that the *accident* must go along with the *substance*, and cannot exist without it. Now, as all things in the universe are either Substance or Accident, and as accidents, as well as substances, are divided into systems, (for I have shown, in what I have written on the Categories†, that they are divided into *nine* classes, consisting of *genuses* and *specieses*), the systems of each of them must be as necessarily connected together as substances and accidents are: So that here we have a necessary connection of all the systems of the universe with one another, making altogether but one system.—And thus, I think, it is proved, that the universe is a *system of systems*, all connected together by the most intimate connection of *substance* and *accident*; and that the Parts of these several systems must be all connected together in the same manner as *genuses*, *specieses*, and *individuals* are: So that the system of the universe, however many and various its parts are, is but one system. The universe, therefore, is both *one* and *many*; which I have shown to be the case, not only of the whole system, but of every particular in it‡.—So wonderful is the connection of things in the universe.

When to all that I have said of the system of the universe we add another requisite of a system, That there should be something principal in it, to which every thing else is subordinate, and which is another thing that makes the system *one* §, it must make the system the most perfect that it is possible to imagine. Now this principal thing,

\* Page 86.

† Page 87.

‡ Page 45. &amp; 46.

§ Page 76.

thing, to which all things else in the system are subordinate, is the Supreme Being, who, as I have shown, is the author of the whole system, and the preserver of it, and who comprehends in his nature the principles of intelligence and vitality, without which there could be no system. But of this I will say no more here, as I have elsewhere spoken of it at great length\*.

If this be the case, what shall we say of Dr Clarke's *Demonstration of the Being and Attributes of God*, and particularly of his intelligence, without showing, or indeed mentioning, that there is any system in the universe. Now it is by system that intelligence operates; nor can we conceive any operation of intelligence without a system greater or lesser. Neither can there be, as I have shown†, beauty without a system; so that the Doctor has not proved that there is either intelligence or beauty in the universe.

And thus, I think, I have proved by the works of God, that he is a Being of supreme intelligence; for it is only by the works of any being that he can be proved to have intelligence. Now, in this way, we are as sure that the Supreme Being has intelligence, and supreme intelligence, as that we have intelligence ourselves; for it is by our works that we know not only that we exist, but that we are intelligent beings. Des Cartes, therefore, as I have observed‡, has so far reasoned well, when he has said, "I think," that is, I operate as an intelligent being; "Therefore I am;" but he should have added "an intelligent being."

As the universe is the most perfect system that can be imagined, so it is the most *beautiful*: For it is system, as I have shown, that makes beauty; and beauty is the delight, and indeed the only de-

\* Page 43.

† Page 71. and the passages there referred to.

‡ Page 108.



light, of the intelligent mind†: And when the mind perceives that beauty in its own works, then it enjoys the highest pleasure that even beauty can give it. The contemplation of *beauty* is what is called *the Beatific Vision*, the supreme happiness of man in his future state, when he shall know more of the works of God than he can do here below, and which may be said to have given pleasure to God himself when he saw that his works were *beautiful*; for so it is expressed in the Septuagint, not by the word *good*, as in our translation.

And here I conclude this book on the intelligence of God; in which I have taken occasion to treat of the doctrine of the Trinity, the foundation of the Christian Religion, and of all Theology, and, I may add, of the whole system of nature; for I think I have made it evident, that this doctrine is not only the best Theogony, but the best Cosmogony that can be imagined. The Second Person of the Trinity, or the Principle of Intelligence, “made,” as our Scripture tells us, “every thing;” and it is added, “that nothing was made without him.” The meaning of which last words, I take to be, that every the least thing in the universe proceeds from intelligence: And accordingly our Scripture tells us, “That not a hair of our heads falls to the ground without the will of God.”

\* Page 71. and 72. and the passages there referred to.

## B O O K    III.

## Of the Goodness of God.

## C H A P.    I.

*Goodness essential to the Divine Nature—shown from his works.—  
Of the Beauty of the System of the Universe;—Goodness shown  
both in the formation and preservation of it.*

**I**N the preceding Book I have proved, from the works of the Author of this Universe, that he is a Being of Supreme Intelligence. It is a proof that, I think, must convince every intelligent reader: For it is only intelligence that can perceive intelligence in the works of any being; and I hesitate not to pronounce a man void of intelligence, who does not perceive intelligence in the works of God, if he has formed any idea of them, or if they be properly laid before him\*.

The subject of this Book is to be the Goodness of God, another predominant attribute of the Divine Being; so predominant, and so essential

\* See upon this subject Cicero, *De Natura Deorum*.

essential to his nature, that he is called by Plato the  $\tau\omicron\varsigma$  *ᾠγαθόν*. And our Saviour has said, that *God only is good*\*: Of which the meaning no doubt is, That he is eminently good, that is, he is *goodness* itself, and no other being is *good*, but in so far as he partakes, more or less, of the Divine goodness, the Divinity being the source of all goodness.

As it is from the works of God that we must learn to know his attributes, and even his existence, as I think I have proved†, I will shew from the material world, in which we live, (by which only, as I have said, we can know the being and attributes of God), that he is most perfectly good as well as most perfectly intelligent and wise. And these works I will consider in a more extensive view than they have been considered by those that have written upon the subject.

That the works of God are perfectly beautiful, I have said in the last chapter of the preceding book, by showing that they form a most perfect system: But there is a difference betwixt *beauty* and *goodness*, as I have shown in the preceding volume of this work‡; where I have said, “That the beautiful belongs to the formal cause of every thing; as it is by the union of parts, and by their connection with one another, that every thing is formed, and is more or less *beautiful*. But the *good* belongs to the final cause, being that for the sake of which every thing is formed, both by God and nature, and by man; so that what we call *good* is nothing else but that which makes the thing proper to answer the end for which it is intended.”—Now, that every thing in the system of the universe, is proper to answer the end for which it is intended, is evident: For the whole system consists of ends proposed, and means devised to execute these ends; and, indeed, without both these the universe would be no system: Whercas, I think, I have most clearly proved

\* St Matthew, Chap. xix. v. 17.

† Page 2.

‡ Page 137.

proved that it is a system; nor could we otherwise conceive it to be the work of intelligence, far less of that perfect intelligence which I have shown has produced it. This difference, betwixt the *good* and the *beautiful*, I have illustrated by examples both from the works of nature and those of man \*. The goodness, therefore, of God I hold to be inseparably connected with his prime attribute of intelligence; as it is the goodness of God which makes him employ intelligence both in the production of such a system as the universe, and in the preservation of it: For intelligence must be supposed to act for some end; and that end must be the *good* produced by its operation.

The goodness, therefore, of God is shown, *first*, in the production of the universe, by which every thing in it is so formed, adjusted, and connected together in all its parts, as to answer the end for which it is intended; and, *2dly*, in the administration of the universe, which is so carried on, that, notwithstanding the infinite number of changes which we see in it, the end, for which every thing is intended in the original formation, is answered, so that the universe continues still *one* and *the same*.

And here we may observe with what propriety the goodness of God is made so essential a part of his nature, that he is denominated by it, and called the *το αγαθον*, not only by Plato, as I have said, but by that greatest philosopher of the Alexandrian school, Plotinus, in his *Enneads*. And, indeed, without goodness, such as I have described, we could not conceive the universe to be either produced or preserved by Supreme Intelligence, which must necessarily act for some end, and devise means for accomplishing that end.

It will naturally be asked, What is the end proposed by God in the formation and preservation of the universe? And my answer is, that

\* Vol. V. p. 138.

that the end is to make every thing as perfect of its kind as it can be, and as fit to produce the end for which it is intended, and to preserve it in that state.

And this naturally leads to another question, What makes the perfection of the beings of the universe? This question can only be solved by considering the nature of the several beings in the universe, which, as I have said, must be all perfect of their kind, in order to make this system of the universe perfect.

C H A P.

## C H A P. II.

*General Survey of the World, 1st, The Firmament and its Luminaries:*

*—These exhibit a glorious spectacle;—are also of necessary use to us.*

*—2d, The four Elements of which our Planet is composed.—3d, The Animal Race.—These to be afterwards considered.*

I WILL begin with the works of Nature in this part of the Universe in which we live. The first of these is the Luminaries in our firmament, which, at the same time that they exhibit to us a most glorious spectacle, are, as I have shown, of the greatest use, and are perfectly fitted to answer the ends for which they are intended, viz. the vicissitude of day and night, the succession of seasons, and the production of vegetables, by which all the animals on this earth are nourished.

The next thing to be considered, with respect to our earth, is the four Elements, the air, the water, the fire, and the earth itself, which are intended for the nourishment, the health, and preservation of all the animals of this earth, and of the vegetables upon which they subsist; and so perfectly are they adapted for these purposes, that nothing more proper could be imagined.

The only other production of nature on this earth that I shall here mention is Minerals, which, as it is well known, are of the greatest



ufe to the first animal on this earth, that is Man; and so fitted for his use, that nothing else could supply their place.

To what I have said concerning the goodness of God, manifested in the natural world, where every thing appears to be formed for the nourishment and preservation of the most valuable beings on this earth, I mean the animals, it may be objected, that there are some things in our earth, which seem to destroy the order and regularity of things in it, such as earthquakes, inundations, and eruptions of burning mountains, by which great mischief has been done in many countries and in different ages of the world. But to this my answer is, that all these events, extraordinary as they may appear to us, are the consequence of general laws, by which the system of the universe, and every other system, must be governed, otherwise it would not be, as I have said, a system\*. All these events, therefore, which I have mentioned, must be the effect of some natural and necessary causes, which produce in one place the overflowing of water, in another the trembling of the earth, proceeding from some intestine commotion in its bowels; and, lastly, the eruptions of burning mountains, produced by fire in the bowels of the mountains, which discharges itself in smoke and flame, and throws out from the mountain that fluid which is called *lava*. That all those phaenomena happen by chance, no body will suppose who believes that this universe is a system, and a system governed by general laws; which, in some cases, make it necessary that those effects should be produced, as necessary as rain, or hail, or snow, or the overflowing of rivers, which we see happen so often: And the only difference betwixt these common phaenomena, and the other extraordinary phaenomena that I have mentioned, is, that the first of these proceed from causes which operate more constantly than the other, and which therefore we understand better, and can often foresee their operations;

\* Page 76.

operations; but both are parts of the system of nature and equally necessary.

The next class of Beings to be considered is the Animals of this earth, and which are the chief things in it; as for the use of animals all the things I have mentioned appear to be intended. And it is fit it should be so, as they are the only beings of this earth that are sensitive, and consequently capable of pleasure or pain, of happiness or misery; which, therefore, must be considered as the principal objects of the Divine goodness. And as that is the case, it is very proper to consider them by themselves; but, before I speak of them, I think it is proper to say something of an attribute of the Divinity manifested in his works, and that is Preservation, which is no less essential to his nature than Production.

## C H A P. III.

*Preservation, as well as Production, an essential Attribute of Supreme Intelligence.—No Annihilation of anything, any more than Production out of nothing.—The Universe therefore Eternal;—but this only with regard to the Systems in it;—the Particulars composing them in a constant round of change.—Death of Animals and Vegetables only a Dissolution, not an Annihilation, of their parts.—Proof of the immortality of Immaterial Substances from their having no parts.—Animals and Vegetables only eternal by Generation.—Change universal in the Material World.—The change in the World of Spirits only as to their qualities.*

**I**T belongs to Supreme Intelligence not only to produce and form this universe but to preserve it. And in this, as well as in the production of the universe, the wisdom and goodness of God are wonderful.

And, in the first place, there is nothing annihilated in this system, nor indeed have we so much as the idea of annihilation; for we can no more conceive a thing reduced to nothing than produced out of nothing. So far, therefore, I think the universe must be admitted to be eternal: But I hold it to be eternal in every respect *a parte ante*, as well as *a parte post*, to talk in the language of our modern philosophy; for, I think, I have proved that it is an emanation of the Supreme Being from all eternity\*. Nor, indeed, can I conceive that there was a time when the Supreme Being had produced nothing:

\* Page 41. and following.

thing: For I hold Production to be essential to the Divinity; nor can I conceive the Divinity, like the Gods of Epicurus, doing nothing.

But though the system be eternal, and also the things of which it consists, yet these things are not unchangeable, but, so far from that, are constantly undergoing changes: Nor does there appear to be in the universe any thing that is altogether unchangeable, except the author of it, *with whom there is no variableness, neither shadow of turning*\*. And this makes, in my opinion, the system still more wonderful, that the subjects of which it consists are constantly changing; and yet it is so contrived that the system itself still continues the same.

One of these changes is so great, that the individual, which suffers it, is said to *perish*; and I think not improperly, for the form of it is lost. Now it is the form, not the matter, which denominates the substance, and makes it what it is. This change, in our species, is called *death* or *dissolution*; and so, I think, may be called that change in every substance, by which the parts of it are separated or dissolved, but not annihilated, so that the substance is no longer what it was. In our species, when this dissolution happens, our three minds, the intellectual, the animal, and the vegetable, are separated from the body, so that there is an end of the animal or man; but the body remains for some time, so far, that it keeps together and is not dissolved, retaining for some time that mind which is in all natural bodies, organized or unorganized, and, therefore, is called by Aristotle *nature*, and by me the *elemental* mind; by which all bodies are not only moved towards one another, but the parts of them cohere and keep together†. In the same manner all animals die or are dissolved by the separation of their animal and vegetable lives from their bodies; and their bodies are likewise dissolved in the same manner as our bodies are after the separation of our minds. The death of the vegetable is of the

\* James, Chap. I. v. 17.

† Page 18—20, and 33.

the ſame kind; and bodies that we call inanimate periſh in the ſame manner, by the diſſolution and ſeparation of their parts. But, even by this greateſt change of things in the material world, there is nothing loſt or annihilated; for the minds ſtill remain and animate other bodies; or perhaps the intellectual mind of man, which can act without body, may not be again embodied: Whereas the other minds I have mentioned, which cannot act without body, muſt animate other bodies; for otherwiſe, as they can only act in body, they could not be ſaid to exiſt, but muſt be conſidered as annihilated. And even the bodies of animals, and of other things I have mentioned, are not annihilated, but appear again in ſome other form, either as earth of one kind or another, or as vegetables.

From what I have ſaid here, that there is no annihilation of any thing in the univerſe, but only diſſolution, that is, a ſeparation of the parts of which the ſubject is compoſed, it is evident that all immaterial ſubſtances muſt, by their nature, be of eternal exiſtence, whatever change in their qualities they may undergo; for, as an immaterial ſubſtance has not parts like body, there can be no diſſolution of it, and conſequently no extinction: So that not only our minds, but every mind in the univerſe is neceſſarily immortal.

But as to the ſeveral ſpecieses of animals and vegetables, it is ſo ordered, by the wiſdom of God, that though the form of the particular individual periſhes, it is renewed again by generation or reproduction; ſo that

—— genus immortale manet, ——

*VIRGIL. Georgic. Lib. IV. v. 268.*

and a diviſion of things into genuſes and ſpecieses, without which there would be no ſyſtem in the univerſe, is continued. And even inanimate bodies, ſuch as minerals, though they be diſſolved, are  
brought

brought together again, and united by that power in nature which makes things of the same kind unite together and cohere.

Thus, I think, it is proved, that even in the material world there is nothing lost, though every thing be changed more or less; so that the system is continued amidst all the changes which particular things in it undergo. In the world of spirits there must be likewise changes; for nothing, we are told, is unchangeable except God; and accordingly we know that not only men fell but angels. But this happened by causes which were necessary; so that it could not have happened otherwise, unless the general laws, by which the system is governed, had been, as shall be afterwards shown, altered.

Having said thus much of Preservation as essential to the Deity, I now proceed to speak, as I proposed, of the animal nature in particular.

CHAP.



## C H A P. IV.

*The Animal Nature endowed with a Principle of Motion and Perception;—capable of Pleasure and Pain, Happiness and Misery;—inhabits Organized Body.—First rank of Beings Intellectual.—Second, Sensitive.—Third, possessing the Power of Motion; such as Vegetables, and Bodies commonly, though improperly, called Inanimate.—Impossible to set bounds to the variety of Specieses in the Universe, but by the impossibility of their existence.—Only one Being of perfect Intelligence,—different degrees of imperfect Intelligences;—Man the lowest of these.*

**B***Y Animal* the reader must not suppose that I only mean a body which has in itself a mind that moves it; which must be the case of every body that we see moved, not by any external cause, such as the impulse of other bodies, but by an internal principle, that can be nothing else but mind, which, as I have shown, is the cause of the motion of all bodies. But, by animal, I mean a substance that has a mind in it, which not only moves it, but has perceptions by what we call organs of sense, and consequently appetites and desires, which, as they are gratified or not gratified, produce pleasure or pain, and consequently happiness or misery. And this mind inhabits the body which is organized and in that way prepared for the perceptions of sense; for I speak here only of the animals of this earth, which are composed of body and mind, not of beings purely spiritual and without bodies.

The

The first rank of animals in the universe consists of intellectual beings, intelligence being the most excellent thing in the universe, and the prime attribute of the Supreme Being; without which even his goodness could not operate: So that, though goodness be most conspicuous in the operations of Divinity, yet it could not operate, nor produce its effects, without intelligence.

As the *good* is the end proposed, intelligence must devise means for accomplishing that end; so that the attributes of intelligence and goodness are necessarily conjoined in the Divine nature; and, indeed, even in the human nature, there cannot be goodness without intelligence at least in some degree.

The next beings, in the order of things, in rank and dignity, are sensitive beings, which have perceptions of sense, but not intelligence.

The third class of beings is of those which have neither perceptions of sense nor intelligence, but only the power of motion, by which some of them grow and are nourished, such as vegetables. Others of them are only moved from place to place, and are joined to other bodies, or separated from other bodies, and are diminished by the separation of their parts, or increased by the addition of other bodies to them, and in that way altered, and in every way altered by the change of their qualities. And this is the lowest rank of beings on this earth, and such as we call inanimate beings, but which, as I have shown, have a mind in them which moves them, and which, as the motions are for certain purposes, must be directed by intelligence, though they have not intelligence of their own: For philosophy teaches us that mind is every where in the universe; nor, indeed, can we conceive any business of nature carried on without it,

unless we maintain, with Sir Isaac Newton\*, that body can move itself, and even with intelligence.

That all these specieses of things do exist on this earth we are certain. What other specieses of things exist in the universe, or may exist on this earth, as we have not discovered them, we cannot tell. But, I think, it is certain, what Aristotle has told us, and it shows the comprehensive view that he had of Nature, that every thing which is possible to exist does exist; and that, therefore, the universe is, according to the philosophy of the Alexandrian school, *πληρωμα των ειδων*, *the complement of forms, or specieses of things*. And, indeed, the universe could not be compleat, and consequently not the work of Supreme Intelligence, if it did not comprehend whatever was possible to exist, that is, without contradiction to the nature of things, or to the intelligence of the Supreme Being which is an essential part of the nature of things, and may indeed be said to be the whole nature of things.

That there is but one being of perfect intelligence, and he the Supreme Being is evident. All the other intellectual beings, therefore, must be more or less inferior to him; and accordingly there are archangels, angels, cherubims, seraphims, and, in order to make the system of nature compleat, there must be many specieses of intellectual beings below them, till we come down to man, the lowest species of intellectual beings that we know. But whatever degree of intelligence these beings may possess, they have one thing in common with one another, and with all sensitive natures, that they are susceptible of pleasure and of pain, and consequently may be either happy or miserable. The more perfect intelligences are capable of greater happiness than imperfect intelligences: But I say they are all as happy as their natures will admit, without excepting even man

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\* See Page 8.

in his natural state, and even in the state of civility; which, to many of my readers, will, I know, appear a violent paradox. But of this I will say a great deal more in the sequel: And here I will conclude the chapter with observing, that animals, as well as every thing else in the universe, are divided into *genuses* and *specieses*; and, indeed, without such a division, there would be no order or arrangement of things in the universe, and consequently no system.

## C H A P. V.

*Of the Happiness of the Animal Race in particular:—It only capable of Happiness or Misery.—Divison of Animals into Intellectual and Sensitive.—Man both Sensitive and Intellectual.—Pleasure the source of Happiness.—Pleasures of the Mind greater than those of the Body:—The same the case of Pain.—The most perfect Animals most Happy;—for their use other animals intended:—Yet every Animal as Happy as his nature will admit;—otherwise the Universe not a perfect System.*

**H**ITHERTO I have spoken of the goodness of God with respect to the whole system of Creation: But I am now to speak of his goodness with respect to one part of the system; I mean the animal race, in the happiness of which it is chiefly manifested.

Happiness or misery can only belong to the animal nature; for it is animals only that are sensitive, that is, have feelings of pleasure or pain. Some of these are sensitive, but not intellectual; others are both sensitive and intellectual: Of these last is Man.

As it is Pleasure which makes happiness, all pleasure must arise either from the perceptions of sense, or from the exercise of intellect; that is either from body or from the intellectual mind. Of these two pleasures, the greatest must arise from the exercise of the superior faculty, that is of intelligence. As to *Pain*;—Epicurus has told us, that  
the

the pains of the mind are the greatest: For, says he, the mind not only ails the present, but the past and the future; whereas the body only ails the present. The pleasures of the intellectual mind must also be greater than those of the body; and for the same reason, that the mind not only enjoys the present, but the past and the future. And the pleasures of this mind are so much greater than those of the body, that a man may enjoy the pleasures of mind under the greatest distress of body. Of which Epicurus himself was an example; for, in a letter of his to a friend, he says, that while he was dying of a most painful disease, he was happy in the thoughts of the great discoveries in philosophy which he had made\*.

Thus it appears, that the most perfect animals, that is the intellectual, if they make the proper use of their intellect, are capable of the greatest happiness; and it is according to the order of nature that it should be so. But all animals cannot be equally perfect; for the system of the universe being, as I have said, *πληρωμα των ειδων*, *the complement of forms*, it was necessary that it should comprehend animals of every kind; and, indeed, the system would otherwise have been imperfect, and not a *system*, as it is, *of the whole of things*. But, though every animal could not be equally happy, not being equally perfect, the goodness of God requires that every animal should enjoy all the happiness that his nature is capable of; so that the question is, Whether that be not truly the case? And it appears to me that it is; for otherwise the system of the universe would not have been a perfect system, which we must suppose it to be, being the work of perfect intelligence.

The principal Beings in the system are, as I have said, sensitive and intellectual beings. For their use all the other beings are intended, and accordingly are so employed. If, therefore, those beings

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\* Cicero, Lib. II. *De Finibus*, Cap. 30.



were not as perfect of their kinds as they could be, there would be something irregular and defective in this system of the universe. Now, as they, and they only, are capable of pleasure, and consequently of happiness, they ought to be as happy as their nature will admit; for the system of nature would be defective on this earth, of which only I speak, if what is principal in that system be not as perfect as it can be: And, therefore, I think that the goodness of God is necessarily connected with his intelligence, by which the system of the universe was formed.

And thus, I think, the goodness of God is proved *a priori*, being necessarily connected with his intelligence. And what only remains to be considered is, whether or not it cannot likewise be proved by facts.

C H A P.

## C H A P. VI.

*Inquiry into the Happiness of Man.—He was the last of God's works, and is an Epitome of the Creation,—proper that he should be the Governing Animal on Earth.—His present misery no objection to the perfection of the System of the Universe, he having changed his Nature and fallen from a more perfect state.—The Goodness of God not to be judged of by the present state of Man.*

**I**N the preceding Chapter, I think, I have proved, from the necessary connection that there must be betwixt the intelligence and the goodness of God, that, in the animal system, the intellectual animals must necessarily be the happiest, if they make a proper use of their intellect. In this Chapter I am to inquire, whether man, being the only intellectual animal on this earth, be not the happiest animal.

Man was the last of God's works in the formation of this world, and with him was completed the great work of creation, of which he may be said to be an epitome; for, as I have shown\*, he contains in his little world every thing that is to be found in the great world. As he is the only intelligent animal on this earth, and the image of God, it was no doubt fit that he should be the governor of it: And accordingly God gave him dominion not only over the animals upon the earth, but over the fowls of the air and even the fish of the sea;

\* Page 107. and the passages there referred to.

fea; and all the fruits of the earth were given him for food\*. Now, if such an animal, so much superior to all the other animals on this earth, were miserable, or did not enjoy all the happiness which both his sensitive and intellectual natures afford, we might say that there is a great imperfection or defect in the system of the universe, more especially when we consider that all the inferior animals on this earth enjoy, as I shall afterwards show, every pleasure that their nature, which is only sensitive; is capable of. In the civilised life, I think, I have shown in the preceding part of this work, that by far the greater part of men are more miserable than the brutes; and even in the natural life they have not that enjoyment of intelligence which must make the happiness of every intelligent creature. Now, if I could suppose that man had always been in the state in which we now see him, and was to continue in that state to all eternity, I should think the objection to the goodness of God, and to the perfection of the system of the universe, was unanswerable. But man was not always in the state in which we now see him, nor came out of the hands of his Creator such an animal as he now is; but has changed his condition, and is fallen from a more perfect state. And this leads me to speak of the Fall of Man, which is the source of all the misery that he suffers at present; and which, if rightly explained, will solve that grand question, not only in the history and philosophy of man, but in theology, concerning the Origin of Evil. I therefore think it proper to make it the subject of another chapter: And I will only add to this chapter, that those who judge of the goodness of God from the happiness of man in his present state, judge very falsely, as they judge by the happiness of a creature who is not such as God made him, but such as he has made himself by his fall from the better state in which he was created. And the only questions are, *imo*, Whether or not the Supreme Being could have, in  
consistence

\* Genesis, Chap. I.

consistence with the general laws of nature, prevented that fall which has made man so miserable in his present state; *2do*, Whether, in consistence with these general laws, man could have been more happy than he is in that state. And, *lastly*, Whether, in this present state, in which he is so miserable, he is always to continue?

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## C H A P. VII.

*The Question of the Origin of Evil, stated by Plato but not solved.—This defect supplied by our Religion.—It arose from our Pride and Self-conceit.—Moses's account of the Fall of Man Allegorical, and so understood by Josephus.—Reminiscence, as maintained by Plato, agreeable to the doctrine of an Antecedent State:—Such a State inferred from the imperfection of Man in his Natural State, compared with the Natural State of other Animals.—Necessary, that of a whole Species with imperfect Intellects, and possessed of free will, some should fall.—That the case of Man on this Earth.*

THE first thing to be inquired into in the solution of this grand question concerning the Origin of Evil, is, How this event, of the Fall of Man, from his more perfect state into the state we now see him in, happened? This is a question which Plato, who maintains that *man fell*, has not answered, nor attempted to answer. And there, I think, his philosophy is so far deficient: But this defect is supplied by our Religion, which informs us that it was not indulgence in sensual pleasures that made man degenerate into his present state, but pride and an opinion that his intelligence was much superior to what it truly was, and that it made him like to God, knowing good and evil. This account of the Fall is given by Moses in the way of allegory or parable, the most antient way, of instructing men, and indeed the only way in which such a people as the Jews, for whom Moses wrote, could have been instructed: For  
such

such men cannot be taught by theorems of science and inferences from these, but by objects of sense and facts which are familiar to them. It was in this way that our Saviour instructed the Jews by his parables; and in the Old Testament there is an example of a parable, which I think is the finest fable that ever was written. It is what is called the *Parable of Jotham*\*, the subject of it is the meeting of the trees of the forest to chuse a king: And the moral of it is a great and important truth in politics, That those, who are most unfit to govern, are most desirous of governing; while those, who are fittest for it, decline it, knowing how to employ their time better for the improvement of their minds and their own happiness. The whole story, therefore, of the Garden of Eden, and of the Trees of Life and of the knowledge of Good and Evil, must be supposed to be nothing else but an allegorical way of informing us that man fell by pretending to know good and evil, and from an immortal creature, which we must suppose him to have been, before the fall, became mortal. In this way the story of the Fall is understood by Josephus, who, I think, must be supposed to understand the books of Moses better than we do. And, indeed, I think, it would be impious, (for it would be a ridicule of Religion), to suppose, that the Trees of Life and of the knowledge of Good and Evil really existed. In this allegory it may be observed, that there is a great deal of dialogue mixed with the narrative, which would make it more familiar and more pleasing to the people for whom Moses wrote. This allegory, when explained in the manner I have done, gives a very probable account of the fall of man; for it was very natural, that being so much superior to all the other animals on this earth, by his being the only intelligent animal, he should fancy himself still more superior, and believe himself to be nothing less than a god. Now, the natural consequence of such a disorder of his governing principle, that is of his intelligence, was that he should lose the

\* Judges, Chap. ix. v. 8.



use of it, and only retain the capacity of acquiring it: And this we see happens in common life; for a man by fancying himself a King may become mad, and so lose the use of intellect altogether for a time, but may again recover it. But we may suppose that a man, though he may recover the use of intellect, which he has lost in the way I have mentioned, may not recover all the knowledge he had before he lost the use of his intellect, but only part of it, by seeing objects which put him in mind of it. And this I hold to have been the case of our first parents; and that, therefore, Plato is in the right, when he maintains that all the knowledge, we acquire in this life, is no more than Reminiscence of what we knew in our former life \*.

It may be observed of this allegory of the Fall, that it supposes man to have fallen at once, by eating *the forbidden fruit*. But this is the nature of allegory, to suppose a thing done at once, which may have been many years a-doing. And, therefore, I understand that man was for a considerable time in that perversion of his intellect, which made him think himself a god, before he lost the use of it altogether and became a creature, such as Aristotle has described him, only capable of intellect and science.

This account of the fall of man is, like the other things in our sacred writings, perfectly agreeable to philosophy and the religion of nature; and accordingly Plato has maintained, as I have said †, that there was an antecedent state of man, in which he was a more perfect animal than he is at present: And, indeed, I hold it to be altogether irreconcilable with the wisdom and goodness of God, to suppose that man came out of the hands of his Creator an animal so imperfect

\* See p. 202. of Vol. V. of this work.

† Page 380. and following of Vol. IV.

perfect in his natural state as man is, more imperfect of his kind than any other animal we know; and I maintain that he cannot be brought to any degree of perfection without civil society, in which, as Homer has told us, he is the most miserable of all animals upon this earth. And not only from the attributes of God, which I have mentioned, is it proved that there must have been a change in his nature since he was created, but, I think, it is evident from the history of man, compared with the history of other animals upon this earth. For all these animals, when they come to full growth and the maturity of their age, are as perfect as by their natures they can be: Whereas man, though come to his full growth, is, in his natural state, without arts and civility, a most imperfect animal of his kind; so imperfect, that he cannot be called an intelligent animal, that is a *man*. That he is such in his solitary state is evident; and even in the herding state, though he may practice some necessary arts for procuring his sustenance, and defending himself against the injuries of the weather, such as the Orang Outangs practice\*, yet he cannot be called an intelligent animal, any more than some brutes, which herd together and provide very much better for themselves all the necessities of life, such as bees and ants. Now how can we suppose that the noblest animal upon this earth, and the only intelligent animal, should have come out of the hands of his Creator with a mind much more imperfect than those brutes I have mentioned. I therefore hold the fall of man to be, as I have said, a truth of philosophy as well as of religion; and that otherwise it is impossible to account for the noblest animal here below being in his natural state, without the culture of civility and arts, the most imperfect of the animal race on this earth.

The next thing to be considered in this inquiry is, whether this fall of man was not necessary, and could not have been prevented  
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\* See Vol. IV. p. 26.

without an alteration of these general laws, by which the universe is governed, and must be governed, if it be a system. And I say that it was necessary. And, in the first place, as man fell by an improper use of his free will, that could not have been prevented, except by depriving him of that free will, and making him no longer an intelligent animal, or, in other words, by annihilating him as an intelligent animal: For *will*, or *free will* as it is commonly called, is essential to intelligence; and we cannot suppose an intelligent animal acting otherwise than as he *wills*, whether he acts right or wrong. And this is the difference betwixt a man or any other intelligent animal, and a brute who acts by what is called *instinct*, which prompts him to act in such or such a way, without his forming any opinion of which he is incapable, not being an intelligent animal. Whereas man, being an intelligent animal, forms an opinion that the thing he is to do is good or proper to be done; and his determination to act from that opinion, is what is called *will*. But, *2do*, I say that it was of necessity, that some of a whole species of animals, with imperfect intellects, such as the intellect of man was even in his prior state, should fall into error, and in that way abuse their intellect so much as to lose the use of it.—I say *some* of the whole species, which we may consider as very numerous, and not confined to this planet of ours, but inhabiting other planets; for to confine one whole species of animals, such as man, to this small portion of the universe, would be to set bounds to the works of God, such as we ought not to suppose. I say, therefore, that all men did not fall any more than all the angels, but only some of them as of the angels. Now, I say that was necessary, according to the order of nature; for that some of many animals, of imperfect intellects, should fall into error, and even the greatest errors, may be said to be necessary. That such a thing *may be*, it is impossible to deny. Now, whatever *may be*, according to the general laws of the universe, *must be*: For there is nothing *contingent* in the works of God, that is, which

which *may be* or *not be*; and it is true, what Aristotle has maintained, and which shows that he must have had a most extensive view of nature, “that every thing possible (that is which does not imply “a contradiction, and is not inconsistent with the general laws of “nature, by which the system is governed) does exist,” as otherwise the possibility would be to no purpose, which is not the case of any of the works of God, who, as he does every thing that is necessary, does nothing that is unnecessary or superfluous: And, besides, the event would be a contingency, which *might be* or *not be*; such, as I have said, there is not in the works of God, nor indeed can be in a system so perfect as that of the universe. And, indeed, to common sense it appears at first view incredible, that, of so many millions of creatures, as we may suppose, of imperfect intellect, all should make the proper use of their intellects, and not fall into error: But, on the other hand, it would be irreconcilable with the wisdom and goodness of God, to suppose that they all *fell*; for it would be to suppose a whole species of animals to be so tormented as to be destined to be miserable. The middle way, therefore, betwixt these two extremes appears to me to be the truth.

But it may be said, Why did a God of infinite wisdom and goodness produce a race of animals, of whom some at least are destined to be miserable? And, I think, this objection could not be answered if they were destined to be perpetually miserable. But in the sequel of this work I will show, that they are not destined to be perpetually miserable, but that they are sooner or later to be restored to their primitive state; and that this restoration is to begin even in this life: And this leads me to inquire how this restoration is to be carried on, which will be the subject of another chapter.

## C H A P. VIII.

*Man fell to a State of mere capacity of Intellect and Science.—At first he was Unsocial and Solitary—had neither Intellect nor Science.—Instance of this in Peter the Wild Boy.—Next he became a Herding Animal like the Orang Outang;—had then some Instinctive Arts but no Intellect, though he approached towards it.—To become Intellectual, he must enter into Civil Society, and cultivate Arts and Sciences.—Objection, That the Goodness and Omnipotence of God might have either prevented Man's Fall, or have restored him at once to his Primitive State;—Answered.*

**B**EFORE we enter upon the question, how the restoration of Man is to be carried on in this life, we must first inquire to what kind of animal he fell. This Aristotle has told us in words which I have given elsewhere\*. It is so compleat a definition of man in his natural, that is his fallen state, that upon it I have founded my whole philosophy of man. But in order to understand it, we must be both philosophers and Greek scholars: For we must know that λογισμός does not denote an intelligent being, but a being that has the comparative faculty, which all the better kind of brutes possess; and we must be able to distinguish betwixt νοῦς and ἐπιστημὴ, and to know that νοῦς denotes that faculty of the mind by which we form ideas; whereas ἐπιστημὴ denotes that faculty by which we compare our ideas, and form of them propositions and science.

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\* Vol. IV. Book I. Chap. I.

While man was in this state, having only the capacity of intellect and science, he appears to have been a solitary and unsocial animal, such as the wild beasts are. And this is likewise proved from fact and observation: For the savage or wild men, that have been lately discovered, when first discovered, ran away from man \*. So that, in his first state after his fall, man is an animal perfectly solitary and unsocial. That man, in this state, has not intellect, and much less science, is proved by a fact that has been discovered in this age; and it is, I think, a very curious and important fact of natural history, as it relates to the history of man; I mean the story of *Peter the Wild Boy*, of whom I have given an account in a former volume†.

The next step, in his progress in this life from the solitary animal, was to become a herding animal. But neither will herding make man intelligent. And this too is proved by a fact that has been discovered in this age, and which, I think, is likewise a very curious and important fact: It is the case of the Orang Outangs ‡, who live in the herding state; and though, from an instinct natural to all animals, they practice some things necessary for their preservation, such as making huts of branches of trees to preserve them from the injuries of the weather, and arming themselves with sticks to defend their persons, yet they have not what can be called intelligence; though they have carried the capacity for it so far as to give marks of it, such as a sense of what is beautiful, graceful, and becoming; which, as I have shown elsewhere, necessarily accompanies intellect§, and even the faculty of acquiring it, as appears from the case of the Orang Outang. What then was man to do, in order to recover (in some degree at least in this life) the use of intelligence; for it would be inconsistent with the wisdom and goodness of God, that he should for ever continue in the state of mere capacity of intellect, or that in

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\* Vol. III. p. 45.

† Ibid. p. 57. and 367.

‡ Page 141. of this volume.

§ Page 71. Ibid.



this life, or in any other life he shall afterwards be in, he should not be enabled to make some progress, more or less, towards a recovery from his fallen state. For that purpose, as I have said, neither the solitary state nor the herding is sufficient. Now, the only other state, in which man lives in this life, is the civilised: And that state, I say, is absolutely necessary for giving him the use of intellect, and enabling him to make some progress towards a recovery from his fallen state; for it is in that state only, that he can recover the use of intellect, which he has lost, and improve it by the cultivation of arts and sciences. The faculty of intellect, which only remained with him after his fall, is a latent quality in him, which can only be produced by degrees; and it is only civil society, and the close intercourse of men with one another in that society, that bring forth this latent quality by giving him occasion to exercise it, in the same manner as other latent faculties in our natures are produced, such as the use of speech, of music, and, I may add, of every other art and science, which all belong to our nature, but are only exerted by use and practice in civil society.

It may be objected to what I have said of the fall of man, and of his restoration from his fallen state by the means of civil society, That, as God is perfectly good and at the same time omnipotent, he might have exercised his power to prevent the fall of man, or, after he had fallen, to restore him immediately and directly to his primitive state, without the slow process of that restoration by the means of civil society.

To this I answer, that as the universe is a system, it must be governed by general laws, otherwise it would be no system\*. Now, those laws are what we call the *laws of nature*, which arise from the nature of things; and as God is the author of nature, so that the nature of things is part of his nature, he could not have altered the  
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\* Page 76. of this volume.

nature of things, without altering his own nature; which, it is admitted by all Theologifts, he cannot do. He cannot, therefore, make *truth falfehood*, nor two contrary propofitions to be both true. As to his preventing the fall of man by an act of omnipotence, that could only be by taking from him the ufe of his *free-will*, which would in effect have been annihilating him as an intellectual creature\*. Now, I think, I have fhown†, that there is no fuch thing as annihilation of the works of God, nor, indeed, of the works of men, however they may change their form. And as to man's reftoration from his fallen ftate and the recovery of his intellect otherwife than by the intercourfe of men in civil fociety, it would have been contrary to the nature of things if thefe had been accomplished by the exertion of omnipotence. The truth, therefore, is, that the wifdom and goodnefs of God, which, as I have fhown, are infeparably connected, have formed the fyftem of the univerfe, that every thing goes on in the moft regular manner according to general laws: And yet the goodnefs of God is every where manifested in the fyftem; fo that what evil is in it, arifes neceffarily from the nature of things, is not of long continuance, and is productive of good. This is the cafe of the pains that man fuffers in this life, which are neceffary, and at the fame time productive of the greateft good, as they tend to his reftoration to the ftate from which he has fallen.

\* See p. 141.

† Chap. III. of this Book.

## C H A P. IX.

*Of Civil Society and its effects.--Sensations and the Consciousness of them, necessary for preparing us for Civil Society;--Consciousness denied to the Brute.—A Herding State necessarily prior to Civil Society.—Our progress from such a State, or from a single Family, to a Political State.—Instance of such a progress in the Jewish Nation, and in the Nations of North America.—The improvement of the Human Intellect by the close intercourse produced by Civil Society:—This intercourse carried on by Language, the first and most difficult of Human inventions:—Language compared with the Analysis of Speech into its Elemental Sounds, and with the invention of the Writing Art.—Language, the Author supposes, partly revealed and partly invented:—Its progress from Inarticulate Cries to a perfect Language such as the Greek or Sanscrit.*

**I**N this Chapter I am to treat of Civil Society, and to show how it has given man the use of intellect, and is the source of all the arts and sciences by which his intellect is cultivated and improved.

But some things are necessary in order to prepare man for the civilised life and for the invention and cultivation of arts and sciences. And there are two things mentioned by me in the beginning of this volume \*, which we have from nature, and which are, as I have there said, the foundation of all our knowledge in this state of our existence. The first is our Sensations, proceeding from the actions

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or impressions of bodies upon our organs of sense; from which arise the perceptions of those bodies: And this is the first operation of our minds in this life. The next operation is, the Consciousness of these perceptions. From these two sources, as I have said, is derived all our knowledge in this life, even the knowledge of our own existence. It is by this faculty of consciousness, as I have said in the passage above quoted \*, that we are distinguished essentially from the brute: For the brute, though he have perceptions of sense as well as we, has not the consciousness of these perceptions; and therefore he has no knowledge, not even the knowledge of his own existence. It is from the consciousness which we have of the perceptions of sense that we form our ideas; and from our ideas, it is well known that all arts and sciences are derived. But of ideas, though I have said a good deal elsewhere, I will say something more in a subsequent chapter.

Having premised thus much concerning what is necessary to prepare man for his improvement in civil society, I come now to inquire how civil society began, and in what state men were before they formed that connection with one another which civil society produces. And I say that they must have been in the herding state: For we cannot suppose that men, dispersed in a country, should have all at once met and assembled together to form such an union as that of civil society; but it was most natural, and, indeed, I think, necessary, that they should first be assembled in herds, and, having thus become acquainted with one another, should agree to form a closser union; I mean that of civil society. A society thus constituted may have been at first pretty numerous, if we suppose that the whole herd at once agreed to form a society. But we may suppose that only some of them agreed to that; and that only one man with a female or two, and some children, may have separated from the rest, and formed a small society by themselves. And in this way I

account

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account for civil society being formed not only from herds at once, but from families, which we may suppose to have separated from the herd before it was formed into a society, and even from the society after it was formed, for certain reasons. But after these families had separated from the herd or society, they would find it necessary, in process of time, to associate with other families, and so form a political society. This association we must suppose to have been at first of few families: And accordingly the Indian nations of North America consisted originally of no more than three families, which are yet preserved among them distinct\*; and there is one very remarkable family, of which we have a most authentic record, I mean the family of Jacob, which continued by itself, without incorporating with any other family, till it became a great and powerful nation.

Civil society being thus constituted, we are next to inquire how it produces the improvement of the human intellect, and I may say the acquisition of it. I have already said that it is by the close intercourse of men in that society, that the improvements of our intellect are produced. But how is this intercourse to be carried on? And I say that can only be by the use of language; for it would not be sufficient to use only signs and gestures and inarticulate cries, such as the beavers use† in carrying on their business. But for that communication of men with one another, which is necessary in order to carry on the business of political society, and consequently to produce arts and sciences, there must be the use of speech; and it is for want of that faculty that the Orang Outangs have no polity or government among them, nor any arts or sciences. Language, therefore, is the foundation of all the improvement we can make of our mind in this life: And it must have been invented before any other

\* Vol. I. of *Origin of Language*, p. 365. 2d edition.

† See Vol. III. p. 53.

other art. This I have maintained in several passages of this work. But, with respect to the invention of it, I think, there is a distinction to be made betwixt articulate sounds, that is the materials of which language is composed, and the art by which they are so put together in words and sentences as to make speech and to convey to the hearers our ideas.

The more I consider language, the more I am convinced, that, though it be the most common art amongst men, and of much more general use than any other art, it is the most wonderful art practised by men; and I am persuaded that every man, who considers language as a philosopher, will agree with me. At the same time, it must have been invented, as I have said, in the first age of civil society, and before any other art. In such a state of man, I am convinced, as I have said in sundry passages of this work, that it could not have been invented without some supernatural assistance. What distinguishes language from every other art invented by man is, that in other arts nature furnishes the materials of the art, such as wood, stone, metals, minerals, and colours, which are the materials of painting: Whereas of language we may be said to create the materials; for we form the articulate sounds of which it is made. That these must have been at first of most difficult formation, must be evident to every man who considers that language is necessarily formed from animal cries; for man was an animal, before he had the use of intelligence or language. Now, let us consider the nature of animal cries, and how different they are from language or speech. An animal cry, while it lasts, goes on in a continual flow, and is only distinguished by *loud* or *low*, *quick* or *slow*, *long* or *short*, *acute* or *grave*; and all these distinctions are in the sound of language. But there is this great difference betwixt language and animal cries, (in which difference the essence of language consists), that language instead of going on without any break or division into parts,

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as animal cries go on in what I call a constant flow, with those differences which I have mentioned, is broken and divided into sounds, so different from one another that they cannot be called the same sounds. Now, this difference is produced in the most natural way, by the various organs of pronounciation, which are employed to produce them. These organs are, *1<sup>st</sup>*, the wind-pipe or larynx, by which the breath from the lungs is conveyed into the mouth: *2<sup>dly</sup>*, The several organs of the mouth, such as the tongue, the palate, the lips, and the teeth; all which form, of that breath, articulate sounds, so various and so different from one another, and yet united in a most wonderful manner so as to produce speech. Some of these articulate sounds are produced by the position only of the organs of speech; and this is the case of those sounds we call vowels, which are produced by certain positions of the organs of the mouth while the breath is passing throw it: While others, called *consonants*, are produced by certain actions of these organs, particularly of the palate, the tongue, the lips, and the teeth. Of this wonderful composition we may judge, by the difficulty there must have been in resolving all that variety of sounds, so mixed together, into the elemental sounds of which they are composed, that is the alphabet. This analysis was first made in Egypt, the parent country of all arts\*; and, though it be the first thing our children are taught, yet I think it was a very great work of art, without which there could have been no science of language, nor of another most wonderful art; I mean the writing art, which, Plato tells us, was likewise invented in Egypt. And, indeed, it very naturally followed the discovery of the elemental sounds of which language is composed; for the writing art is nothing else but putting together, upon paper or any other substance fit for that purpose, certain marks or signs for those elemental sounds, which, being so put together in different ways, make syllables and of them words. This too is a very wonderful art; as  
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\* Vol. IV. p. 267.

it makes sounds visible, and speaks, as it were, to the eyes. It is also of the greatest use, as it gives a fixedness and permanency to speech, which, by its nature, is voluble and transitory, (for, as the poet says,

— Semel emissum volat irrevocabile verbum.)

and in that way preserves arts and sciences for many generations, and transmits them from the most distant countries and most antient times; by which means the most valuable learning we enjoy, that is the antient learning, has been preserved to us. So wonderful an art could not have been, any more than language, invented at once: And, accordingly, there was a progress in it which we know, from the picture-writing, which was practised by the Mexicans in South America when they were first discovered, to the symbolical or hieroglyphical writing, which was the first writing among the Egyptians, and is at this day used by the Chinese. But though it be so wonderful an art, it is the art which, next to language, is of most general use: And it is the first art that our children are taught; for they learn to write, even before they are taught the art of language, and when they have acquired by use the practice of it only\*. But to return to language.—That all those different sounds, of which language is composed, so many, so various, and so mixed together, produced by those hidden organs of the mouth that I have mentioned, (the operations of which are not so obvious, and are much more delicate and nice than those of our other organs, such as our legs or our arms), should have been invented without supernatural assistance, in the first and rudest ages of civil society, and before any other art was invented, appears to me, as I have said, absolutely incredible†; and I am persuaded it will appear so to all my readers, when they consider how language is at first learned by us in our present state,

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that

\* Who would desire to know more of this wonderful art of writing, may read what I have written in Vol. IV. p. 26. and following.

† That supernatural assistance, I have elsewhere said, was given to the Egyptians by their Daemon Kings, Ibid. p. 263.

that is by imitation and habit. But the men who first spoke could not learn it in that way ; for they were exactly in the case of our deaf and dumb men, who cannot learn by imitation, and therefore must be taught. Now, how difficult and how laborious a task that is, I myself can witness, from the conversations I had with the Abbe de l'Épée in France, who taught dumb men to speak, and from what I myself saw of the operations of Mr Braidwood here in Scotland upon his dumb scholars : For he laid hold of their mouths and chins, and in that way made them move the organs properly for pronounciation ; and as to the interior organs, such as the tongue and the palate, he showed them, by opening his own mouth and making them open theirs, how to use these organs in pronounciation. It is this difficulty of forming the materials, that is articulate sounds, of which language is composed, that has convinced me that it could not have been invented without supernatural assistance.

But though I think it impossible that the first men who spoke could, any more than dumb men, have taught themselves to articulate, I am of opinion, that after they had learned, by supernatural assistance, to form articulate sounds, they might, by their own natural sagacity, of these articulate sounds form speech : But even this I hold to have been the greatest effort of the inventive genius of man that he ever made.

Of this we may judge by considering the nature of a language formed and compleat, such as the Greek. In such a language, all ideas, that man can form, of what he perceives in the heavens above, in the earth below, in the sea or waters of any kind, must be expressed with all their qualities, accidents, relations, and connections with one another, also things immaterial as far as we can comprehend them, and likewise the actions and operations of things both material and immaterial : And not only must we express by  
words

words all the things I have mentioned, existing in nature, but we must express likewise all the things invented by men, which make a kind of world of art. And when words are invented, denoting such an infinite number of things, they must be arranged and put together in such a way as to form speech, and to convey the meaning of the speaker to his hearers.

How many words there are in a complete language of art, such as the Greek, I believe no man knows, as they never have been numbered, and I believe could hardly be numbered, though it is said that Varro numbered the words in Latin, and made them to be five millions. But one thing is certain, that such a prodigious number of words never could be comprehended in the memory, nor be applied to use, if they were all unconnected with one another. It was, therefore, of absolute necessity that they should be connected with one another, so that the knowledge of one should lead to the knowledge of several more. This is done by the three great arts of language, Derivation, Composition, and Flexion, which connect words together both in sound and sense, and by that means prevent such a multiplication of words as would make them incomprehensible in the memory, and therefore unfit for use. Of this we may judge, if we were to suppose that every word, derived, in a language of art, from another, were to be expressed by a word quite different in the sound; and if the words compounded were to be expressed by sounds quite different from the words which compose them; and if the cases of nouns, and the tenses of verbs expressing times, numbers, and persons, were all to be expressed by words having no connection with one another:—And as the verb expresses passion as well as action, and therefore has both an active and a passive voice, (and in Greek likewise a middle voice), if all the tenses in these voices, with their times, persons, and numbers, were to be expressed in the same way, even the words denoting

verbs and their several accidents would be so multiplied, that they could not be comprehended in the memory nor readily used.

From this use of the three great arts of language, I think I have shown, that the art of language chiefly consists in preventing that multiplication of words which would render the language unfit for use; and that, therefore, those, who do not know the use that is made of these three arts, do not know what the art of language is.

In this great art of language, the antient languages, and particularly the Greek, very much excel the modern: For in English we mark the cases of nouns by particles, or *prepositions*, as we may call them, of unpleasant sound, and, as they recur so often, fatiguing to the ear, such as *of, to, from, and by*, by which we supply the want of flexion in our nouns; and, in the tenses of our verbs, we supply the want of flexion by auxiliary verbs, such as *am, have, shall, or will, &c.*

Of the three great arts of language I have mentioned, which produce so many new words deduced from old words, the most fruitful in that production is the last mentioned of the three, namely flexion, of which the production in the Greek verb is wonderful; for, from a single theme of a Greek verb, without reckoning any of its derivatives or compounds, there are produced about 1300 words, as I have said in a preceding volume of this work\*. This may appear at first sight incredible, especially as it is produced by one only of the three great arts I have mentioned, that is flexion. But we should consider that this one art produces, in the verb, all the variety of conjugations, voices, and tenses, (which last are varied so much by the three numbers and the three persons), and, lastly, by the variety of participles and their numbers and cases. And there is one variety, besides, in the Greek verb, that I have not yet mentioned.

\* Vol. IV. p. 119.

tioned. It is the expression, by what is called *moods*, of the disposition of the speaker, whether he *affirms* the thing *simply* and *absolutely*, or as *dependent upon another thing*; which affirmations are expressed by the *indicative* and *subjunctive* moods; or whether he *commands it*, which is expressed by the *imperative*, or *wishes it*, which is the expression of the *optative*. All these varieties are so great, that they make the Greek verb the glory of the grammatical art, and, indeed, I think one of the greatest inventions of men. But, after all this is done, there is one thing still remaining to be done, and this of such importance, that without it all the other things I have mentioned would signify nothing. What I mean is, that the words must be so connected together in the sentence, as to express what the speaker or the writer means; for without such connection, the words, however significant in themselves, would convey no meaning. And this last part of the art, called *syntax*, compleats the grammatical art, as far as concerns the meaning of the words in sentences.

Thus, I think, I have proved, that the Greek language is a wonderful work of art, much more wonderful than it is commonly thought to be; and that one part of it particularly, I mean the verb, is the glory of the grammatical art. But though it be so very great an art, yet after men had been taught to articulate by more than human art, they might learn by their own natural sagacity, though not without much pains and trouble, of those articulate sounds to make speech and form a language: And this, I think, must actually have been the case; for as the Creator is supremely wise, as well as supremely good, he does every thing that is necessary for the good of his creatures, but nothing that is unnecessary or superfluous.

To conclude this subject of language—Whether we consider it as revealed from Heaven or as invented by man, or, as I suppose, partly



partly revealed and partly invented, it is certainly, as I have said, the most wonderful art practised by men: And of this, I think, we can have no doubt, when we consider that, by language, our animal cries, which, as I have observed, go on in one flow, are divided and broken into so many different sounds, as to express all the various things not only of nature, but of art, so various and so many, that I believe they never have been numbered. Next, these words must be connected together both by sound and sense, in such a way as to be comprehensible in the memory and readily apprehended by the understanding, so that by practice and habit they may in time become familiar and easily used. And, *lastly*, it may be observed, that in the learned languages, such as the Greek and Sanscrit, (which is the Greek, or rather its original the Egyptian, preserved among the Bramins in India\*), the words have not only a most various and beautiful articulation, but they are adorned both with melody and rhythm: So that, in those languages, music is joined to articulate sounds; and these two make language not only the most useful of all arts, but a most pleasant art, which, while it conveys to the mind all arts and sciences, at the same time charms the ear.

\* See Vol. IV. Book III. Chap. IV. and V.

## C H A P.      X.

*Language at first Monosyllabical.—This proved by the case of the Chinese Language.—Objection arising from the Polysyllabical Languages of North America, answered.—Language necessary for the institution of Civil Society;—therefore must have been in the Herding State, though very imperfect—The first Language confined to the expression of our Sensations and Desires;—afterwards it was extended to express names for things.—Progress in this matter, 1st, of Particular names to form General:—2dly, to connect words by Derivation, Composition, and Flexion;—and, lastly, by Syntax.*

I NOW return to speak of the beginning of this wonderful invention, Language. The first articulate sounds, I am persuaded, would be all monosyllables; for it was most natural that men should first learn to pronounce one syllable, and in that way make a word, before they learned to put several syllables together for that purpose. And this is proved by fact; for the Chinese language is certainly a most antient language, and, I am persuaded, an original and primitive language\*. Now, in the Chinese, all the words are monosyllables;

\* There is a Frenchman of the name of Bergier, a Doctor in Theology, who has published a book, entitled, *The Primitive Elements of Language*, printed at Paris in 1764, in which he has endeavoured to prove, both from the reason of the thing, which I have mentioned, and from sundry examples which he gives us, not only from the Chinese language, but from the Hebrew, the Greek, and the Latin, that the radical words in all languages, which undoubtedly must have been the first words used, are monosyllables.

lables; nor do I wonder that there are no more of them, as it is said, than 330. But by variously accenting them, that is, by giving them different musical tones, they make the same monosyllable signify nine or ten different things: For, music being more natural to man than articulation, (as he has naturally in his voice the difference of *acute* and *grave*, which are the materials of which music is composed), it was very natural that, instead of inventing a new word for any thing, he should express it by accenting differently the same word; and there are some barbarous nations, particularly the Hurons in North America, who in that way supply the want of tenses, persons, and numbers in their verbs.

The difference, as to the length of words, betwixt the Chinese language and the languages of the barbarous nations, is very remarkable: We have in Carver's Travels, in North America, a catalogue of words in the Chippaway language, (p. 420.) in which there is not a monosyllable to be found, but many words of six or seven syllables; and I have, in Vol. I. of the Origin of Language\*, given a specimen of some words of a barbarous language of still greater length. The way I account for this so remarkable difference betwixt the Chinese language and these barbarous languages, is, that the Chinese language, which is undoubtedly of the greatest antiquity, appears to have come from Egypt to China by the way of India, (as well as a great deal of the Egyptian written language), when the language was first formed in Egypt: Whereas the articulation in the barbarous languages appears to have been collected by the barbarians from some people that had learned the use of language from the Egyptians, or from some other nation that had learned it from them; and these articulate sounds the barbarians mixed, as was very natural, with their animal cries, and in that way produced words of such enormous length.

Not

\* Page 543.

Not only is language of absolute necessity for carrying on the business of civil life, but, I think, it was necessary for the first institution of it. I am, therefore, of opinion, that some kind of language, very imperfect to be sure, must have been invented in the herding state, which, as I have said, was prior to civil society, and, I think, of necessity prior, as men must have lived for some time in the loose herding way, before they united in that close union, which we call civil society, for which the herding state was a very proper preparation; for Nature, that is Divine Wisdom, orders matters so regularly, that every thing passes from one state to another by proper degrees, not suddenly or abruptly. Now, it was necessary, that, when men went out of a herd and formed a state of civility, they should have some communication by the voice, intimating their desires and inclinations to one another; and as in all such cases there must have been a leading man who formed the society, he must, in that way, have given his orders, consisting for the greater part of animal cries, varied and distinguished by some articulate sounds, or by different tones of the voice, by which different things were expressed. This language, therefore, would be such as Horace, who very well understood the progress of language, tells us the first language among men was, consisting, as he says, of *verba, quibus voces sensusque notarent*,—that is sounds, by which they expressed their sensations and desires; and it was most natural that men should first speak for that purpose, for which only other animals utter their cries. But after society was formed and other arts were invented and cultivated, this art of language would be among the first that was brought to some degree of perfection. Then says Horace, *Nomina invenere*—that is, they not only expressed their inclinations and desires, but they gave names to things by which they distinguished one thing from another. These names, I am persuaded, were at first given only to the particular objects of sense with which they were conversant. But they would, in pro-

ects of time, extend them to other objects, and so make general names for all the particulars of the same kind ; and as the wants of the society would increase, arts would be invented to supply these wants, and consequently many more names must have been invented for particular things, and then made general in the way I have mentioned.

And here a curious question occurs, Of what nature were the sounds used by men to denote these first objects of sense to which they gave names? And, I think, they must have been sounds of the easiest pronunciation : And as the vowels are of much easier pronunciation than the consonants, I am persuaded that the first names given to things consisted mostly of vowels ; and, accordingly, we observe that the words of the barbarous languages, that is languages spoken by nations who have not formed language into an art, are very vocal.

It may be further asked, What it was that made these first men denote certain things by certain sounds, and other things by different sounds? That there must have been some reason for the variety of sounds expressing different things, and that names were not all given by chance, I think, is evident. The question then is, For what reason was one object of sense called by one name, and another by a different name? And, I think, there must have been some quality in the object which made men give it one name rather than another. That these qualities were essential or specific qualities, distinguishing the object from objects of another species, we cannot believe ; for that would be to suppose that those men, who first gave names to things, had a knowledge of the nature of things much greater than it was possible they could have. It must, therefore, have been from some qualities of the object, perceptible by the sense, that they must have been first denominated. Now, the qualities of  
objects



objects the most obvious to sense, and which affect us most, are their actions or operations; and by sounds having some similarity to these it was natural that we should denominate them. Now, there are only two qualities of the operations of these objects which we can express by our voice. One of these qualities is any sound that they may produce, which certainly may be imitated by our voices: The other is their motions, which, being either quick or slow, may also be imitated by our voices. Thus a quick motion is very properly expressed by the word *voluble*, a slow motion by the word *gradual*, and no motion at all by the word *stedfast*. From these imitations by our voices I believe that the first names were given to things, while language was yet without art: But when it came to be formed into an art, there would be a wonderful variety of words produced by the three great arts of language I have mentioned, derivation, composition, and flexion.

What I have hitherto said concerning the invention of language, relates only to words expressing external objects which we perceive by our senses. But what shall we say as to the internal operations of our own minds, which we know by consciousness and reflection? How could the words expressing them have any kind of similitude to them? And I say, that, as all our knowledge in this life arises from our senses and begins with objects of sense, it was by likening the operations of our mind to those of body, that we made words to express them: And in our speech, at this day, they are so expressed; for we speak of *collecting* the operations of our mind, of *weighing* them, of *dissecting* them, and of one of them *containing* another: So that it is plain we form our ideas of those operations of our mind from what we perceive of our operations upon objects of sense or upon the qualities of these objects.

I have observed, that as vowels are of easier pronunciation than



conſonants, the firſt language ſpoken by men muſt have been very vocal. But even the five vowels, which we uſe, require certain poſitions of the organs of the mouth, without which they cannot be properly pronounced. But we have a vocal ſound from our throat, which requires no particular poſition of the organs of the mouth, nor any thing more than an open mouth. Now, the Wild Girl, whom I ſaw in France, and of whom I have ſpoken in ſeveral different paſſages of this work\*, told me that the language of the country, from which ſhe came, conſiſted wholly of ſuch ſounds from the throat, articulated by ſome guttural conſonants, ſuch as the *Kappa*, *Gamma*, and *Cbi* of the Greeks, and the ſimple *Aspirate*, not only uſed in the Greek but in many other languages. Of the organs of her mouth ſhe told me ſhe made little or no uſe; and the principal organ of it, the tongue, ſhe did not uſe at all till ſhe came to France, except to aſſiſt her in ſwallowing. The ſounds, therefore, of the language of her country muſt have been the moſt ſimple ſounds of which we can conceive any language to be compoſed: For ſhe muſt have ſpoken with open mouth, that is with no uſe of the lips, as the Hurons, a nation of North America, ſpeak, and her language muſt have come as near as poſſible to mere animal cries. I hold it, therefore, to have been one of the firſt languages invented, and the beginning of the art: So that, I think, by my converſation with this woman, I have diſcovered the very origin of language.

This *Wild Girl* was one of the three great curioſities, concerning the human ſpecies, which I have ſeen. The firſt of theſe was *Peter the Wild Boy*, who was, as I have ſaid, altogether in the original ſtate of men upon this earth; for he was ſolitary, living upon the natural fruits of the earth, without cloaths, houſes, the uſe of ſpeech  
or

\* See Vol. IV. particularly Book I. Chap. II. and the Appendix to that volume,—  
alſo Vol. I. of *Origin of Language*, p. 193.

or of any other art. The first step, in the progression of man towards the civil life, was the herding state, such as that in which the Orang Outangs live, of whom I saw two. The next step of this progression the savage Girl had made, for she came from a people living in what may be called the very first state of civil society, and had learned, as I have said, to speak a language the most rude and imperfect that can be imagined, and which I hold to have been the first beginning of the art\*.

Having thus shown the beginning of language, I will here say very little of its progress. I will only observe, that as the sounds of the words of the first language must have been very simple, and approaching very near to animal cries, from which, as I have said, all language was derived, so the words must have been very few in number. But as society advanced, the wants of men would increase, and consequently more names for things would be necessary; and these, in process of time, would multiply so much, that it would be necessary to connect them together both by sound and sense, so that they might be comprehended in the memory. This was done; as I have said†, by the three great arts of language, derivation, composition, and flexion.

Having thus connected things together by what is called the Analogy of language, they would conclude the art by Syntax, without which, as I have said‡, every other thing in the grammatical art would be of no use; for suppose the words expressed every thing in the clearest manner, with all the qualities, circumstances, and accidents of things, yet if they were not put together in a certain way, which

† See what I have said of these three states of man in his progress to civility, arts and sciences, in Vol. IV. Book I. Chap. II.

† Page 155.

‡ Page 157.

which is done by tyntax, they would communicate no meaning to the hearer, becaufe they would only exprefs ſo many different things without any connection with one another.

And here I conclude the ſubject of language, upon which I am afraid the reader will think that I have ſaid too much in this part of my work, after what I have ſaid in other parts of it, particularly in the volumes that I have written upon the Origin and Progreſs of Language. But he ſhould conſider, that language is not only the moſt common art among men, but the moſt curious, and of the moſt wonderful invention, and, at the ſame time, of the greateſt uſe ; for without language there could not be that cloſe intercourſe of men in civil ſociety, by which arts and ſciences were invented, and men made that progreſs in this life towards recovering from their fallen ſtate, which, as I have ſhown, they could not have made except in civil ſociety: And he will obſerve, that I have here ſpoken more of the invention of language, and of the firſt ſounds and words uſed by men when they began to ſpeak, than any where elſe; and, I think, I have given a better account of the beginning of this wonderful art than is to be found in any other author.

## CHAP.

## C H A P. XI.

*Progress of Men from the invention of Language to Ideas, first Particular then General.—Ignorance of Mr Locke in this matter.—All our Ideas arise from our Sensations — Distinctions to be made for knowing accurately the nature of them, but which Mr Locke has not made.—Confusion of his Language on the subject of Ideas of Sensation —What these truly are.—Ideas of Reflection not sufficiently explained by him.*

AFTER Civil Society was constituted, and Language invented, by which a close communication of men with one another was carried on, they would learn to form ideas; for it is by *ideas* that we distinguish things from one another. Our first ideas must have been of particular or individual things, with which all our knowledge in this life, as I have said, begins; nor, without making this distinction of individual things by the means of ideas, could the common business of the civilised life be carried on.

How these particular ideas are formed, I have explained in Vol. V. of this work\*, where I have shown that we must separate a quality, one or more, which is predominant in the object and peculiar to it, from other qualities that are accidental and common to it with other objects. In this way, as I have shown in the passage I have quoted, we distinguish one animal from another; and in the same

same manner we distinguish vegetables and minerals from one another. But of these particular ideas men, even in the first ages of society, must have formed some general ideas. And this too was necessary for carrying on the business of civil life: For without these general ideas they could not have had the use of language, as it was impossible for them to give a name to every individual thing, and therefore it was necessary to denominate things by the specieses to which they belong. How these general ideas are formed, I have likewise explained in Vol. V. \*, where I have shown that they are formed by observing that other objects of sense have the same peculiar or distinguishing qualities, that we have observed in the single object of which we have formed the particular idea. Men must, therefore, for the purposes of civil life, have formed ideas of the lowest specieses. But it is not necessary to suppose that they went so far as to form ideas of genuses; for that belongs to men farther advanced in civil society. Thus, for example, they would form the idea of different specieses of animals, such as *horses* and *oxen*: But they would not form the idea of the genus *animal*; and, accordingly, a name for that genus is not, I am persuaded, to be found in any of the barbarous languages.

I will only add further upon the subject of general ideas, that as Mr Locke makes no distinction betwixt the ideas of particular objects and general ideas, it appears from that, as well as from some other things that I have elsewhere observed, that he did not know what ideas were, though he has said so much about them: For, as I have observed in the passage above quoted, it is impossible to conceive a general idea without particular ideas; and if the particular idea is not actually formed, and well formed, it is impossible that the general idea can be what it ought to be.

Of

\* Page 169.



Of the formation of ideas I have also said a great deal in the fourth volume of this work\*; and I will only add here, that as they all arise from our sensations, it is proper that we should know accurately the nature of these sensations. And there is, first, the impression made by external objects upon our organs of sensation: In this respect our mind is merely passive. Next is the perception of the objects themselves, which make these impressions upon our organs: And here the mind is active; but it is only our animal mind, and therefore the brute has that perception as well as we. Of these perceptions we form ideas in the manner I have described in the passage quoted from the preceding volume, where I have shown that our ideas are the work of intellect, and therefore do not belong to the brute. It is for the want of making these distinctions that Mr Locke has confounded sensations and ideas, and made a whole class of ideas, which he calls *ideas of sensation*. Mr Locke's error, therefore, arises from his not distinguishing betwixt the materials of which our ideas are formed, that is our *sensations*, and the *ideas* which are formed of them, and so making *ideas* of our *sensations*.

But though there be no *ideas of sensation*, such as those of Mr Locke, there are ideas of another kind, and which are truly *ideas of sensation*, though they be such ideas as very few can form. The ideas I mean are those we form of the manner in which the objects of sense operate upon our organs of sense, and produce the different perceptions we have of those objects. For example, if we know that we perceive objects of *sight* by the reflection of the rays of light from these objects to the pupil of our eyes, where they form an image of the object, which is perceived by the mind, the knowledge of this is what I call the *idea of the sensation of sight*. It is, as I have said, an idea which very few have formed: For it is

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\* Book I. Chap. I. VI. and VII.



truly a great secret of nature, which can be known to none but natural philosophers; and it is certainly a most wonderful phaenomenon of nature, by which the rays of light, reflected from the object at the distance perhaps of millions of miles, are conveyed to our eyes entire, and without being mixed with other rays. The same may be said of the idea of the sensation of *sound*, which is conveyed to our ears from a distance of miles through the medium of the air, and conveyed entire and without being mixed with other sounds; and this is certainly likewise a wonderful phaenomenon, though a very common one. Of the sensation of *smelling* the idea is more obvious, as the smell is not conveyed to us from so great a distance: And the ideas of *touching* and *tasting*, being produced by objects of sense in contact with our organs, are still more easily conceived. And thus, I think, I have shown that we have truly *ideas of sensation*, though very different from what Mr Locke calls *ideas of sensation*. As to what he calls, not improperly, *ideas of reflection*, they are such, no doubt, as he supposes them to be: But he does not tell us from what source they are derived, viz. from the consciousness that we have of the operations of our mind; which may be said to be the essential difference betwixt us and the brutes, and the foundation of all arts and sciences, and particularly of the most valuable science of *mind*, of which we know nothing but by reflecting upon the operations of our own mind, and by what we can infer with respect to other minds from these operations.

## C H A P. XII.

*The invention of Language and the formation of Ideas were followed by the discovery of other necessary Arts, such as Number, Agriculture, Cloaths, and Houses.—Then the Liberal Arts, such as Music, Poetry, Ornaments of Drefs, and of Buildings.—Next Sciences, Natural Philosophy, Morals, Logic, Metaphysics, and Theology.*

AFTER Language was thus invented and ideas formed, the inventive genius of man, his love of knowledge, which is essential to an animal of intelligence, and the easy communication he had with other men by the means of language, would naturally produce many arts and sciences. One art I shall mention, because for carrying on the business of civil life it is almost as necessary as language. The art I mean is that of *Numbers*, without which civil society could hardly subsist. This art is not of so difficult invention as the art of language: For the difference betwixt *one* and *multitude* is perceived by the senses; and I have no doubt but the brute has that perception as well as we. But to limit *multitude*, and in that way to set bounds to it or make it what the Greeks called *πληθος χωρισμενον*, is the work of intellect, and not so easy a work, as we, that are taught it and have the constant practice of it, may think. This is evident from the small progress that many of the barbarous nations have made in this art; some of them making the first number, that is *three*, the only boundary, after which they begin again, and say *three* and *one*,

*three* and *two*, *three* and *three*; others of them going as far as the number of the fingers of one hand, that is *five*: While the Hurons of North America have made a much greater progress; for they have taken the fingers of both hands, and so make a decimal arithmetic such as we use\*.

After the invention of language and arithmetic, without which no other art in civil life could have been invented or carried on, the next step in man's progress would be to what are called the necessary arts of life, such as agriculture, cloathing, and building houses, and then to many other arts of ease and convenience, which the inventive genius of man would produce. By the invention and practice of these arts the intellect of man would be so much improved that he would naturally proceed to the invention of finer arts, such as those we call *liberal*.

The first of these I hold to have been *Musick*, of which men had the practice very early, even, as I have said†, before language; but it was only reduced to an art after the necessary arts of life were invented. Then *Poetry* and the *Ornaments of Dress*, and of *Buildings*; for a perception of beauty, or what we call *taste*, I hold to be essential to intellect, and one of the first things which intellect produces: And accordingly we find it among men who have hardly any other use of intellect. It is this sense which produces a certain order and regularity in the actions of men, without which no civil society could be carried on, nor indeed could there be any use of intellect in the affairs of life.

But as the love of knowledge and delight in it is natural, and I may say necessary, to an intelligent animal, man was not satisfied  
with

\* See what I have said on this subject in Vol. I. of *Origin and Progress of Language*, p. 54. 2d edition.

† Page 160.

with the invention and practice of the necessary arts of life, nor even of the arts of pleasure and ornament, but he aspired to science: And what he first studied of that kind was, as was natural, the great book of Nature, which was always before his eyes, and from which he learned that there were many things which had a great similarity to one another; and having discovered what that similarity was, he reduced them to certain classes, which we call *genuses* and *specieses*, and so made *one of the many*, which is a very proper definition given by Plato of a general idea. And in this he followed the order of Nature; for, as I have observed elsewhere\*, all things in Nature consist of *the one* and *the many*. And here, I think, we cannot sufficiently admire the wisdom and goodness of God, who has so arranged the infinite number of things, which we perceive in Nature, as to reduce them all to those unities which we call *genuses* and *specieses*, by which we are enabled to comprehend them, which otherwise it would have been impossible for us to do. Whereas, by the order in which God has been pleased to put them, we can not only comprehend them, but make a system of science of them, and a most wonderful system it is, formed by Archytas the Pythagorean philosopher, and published by Aristotle under the name of *Categories*, of which I have spoken a great deal elsewhere †.

This union of the *one* and the *many*, which is the foundation of all science, not only takes place in *genuses* and *specieses*, but in every individual thing, even individual objects of sense, of which, as I have shown, we form our first ideas; for every one of these objects is a collection of different qualities, which joined together make *one*. In short, every object in the universe is *one* and *many*, and even the Deity is *one* in *three* and *three* in *one*. And in this way we may observe that our perceptions of the objects of sense are very different from those of the Brute: For he has no general ideas  
of

\* Page 45.—111.

† Page 80.

of objects of sense; so that he does not see in different objects of sense the *one* in the *many*, nor even in one object of sense that union of several qualities of the same subject, which makes it *one*, perceiving in it only certain things which affect his senses, such as Colour, Sound, or Motion.

After having arranged in this way these natural bodies, which his senses presented to him, man, from that love of knowledge which, as I have said, is essential to an animal of intelligence, would naturally proceed to consider not only the qualities by which the several kinds of them are distinguished from one another, but also all their other qualities: In short, he would study what is commonly called Natural Philosophy, which by our modern philosophers is supposed to be only the knowledge of *body* and its different qualities; whereas it is truly the knowledge of the operation of *mind* in *body*, which produces all its motions and all its other qualities.

Having thus got the knowledge of bodies, and of the minds acting in those bodies, that is the *animal* and the *vegetable minds*, which move bodies organised, and that mind which moves bodies unorganised, or the *elemental mind*, as I call it, he proceeded to the knowledge of a much higher kind of mind, that is of the *intellectual*: And this study he began by the study of his own mind; which we know by the most certain of all knowledge, *consciousness*. And as it is the most certain, so it is the most valuable of knowledge; as it leads us to the most exalted of all knowledge, the knowledge of the Supreme Mind; for it is only by the study of our own minds that we can have any knowledge of that mind, or indeed of any intelligent mind. So that the precept given by the Delphic God, and which was written upon the gate of his temple, *Know thyself*, was a most valuable precept, leading us, as I have said elsewhere\*, not only

\* Page 108.

only to the knowledge of God, but also of man, and of the whole system of nature;—in short, to every knowledge that is of the greatest value in human life, which we never can learn in any degree of perfection, without first knowing ourselves. Nor is this to be wondered, when we consider that man is a little world, containing a portion of every thing that is to be found in the great world; so that he may be said to be an epitome of that world.

Thus it appears, that from the knowledge of our own minds we, according to the natural progress of our knowledge, proceed to the knowledge of man in general, that is to morals and politics. And in this step of our progress we ought to take along with us the science of Logic, by which we learn to know what truth is, and the operations of our intellectual mind in the search of it, and to conduct properly these operations: So that it is a knowledge which ought to accompany sciences of every kind, but which cannot be learned, any more than the other things I have mentioned, except by the study of the operations of our own minds.

The next step in the progress of our knowledge, and which concludes that progress, is what is called Metaphysics; by which we study not particular beings, such as man or any other animal on earth, but Being in general and its properties, that is the general principles of all beings, and the first cause of them all, the Supreme Being. This science, therefore, includes Theology, which is the summit of human knowledge, and indeed of the universe.

All these several sciences which I have mentioned, namely the knowledge of natural bodies and their several qualities, the knowledge of the human mind, and of Morals and Politics which arise from that knowledge, likewise of Metaphysics and Theology, are all comprehended in Philosophy; and as the happiness of our intellectual



lectual mind, which is the most valuable part of our composition, must proceed from knowledge, (for to excel in knowledge is the perfection of our intellectual mind), so it must make our most perfect happiness. It is, therefore, not without reason, what Plato has said, that philosophy is the greatest blessing which the Gods have bestowed upon man.

C H A P

## C H A P. XIII.

*Egypt the Parent Country of all Arts and Sciences.—There Geometry invented, and Government and Religion established.—The knowledge of one Supreme Being—of the Fall of Man—and of a Future State of Rewards and Punishments, known there.—The Egyptians had a Philosophic Religion as well as a Popular.—The Mystery of the Trinity known to them—and learned there by Plato, as well as his Doctrine of Ideas.—The Learning of the Egyptians now to be learned only from Greek Authors who imported it into their own country, such as Plato and Herodotus.*

TO enlarge upon the progress of man from the necessary arts of life to the perfection of the human intellect by Metaphysics and Theology, would carry me too far from the purpose of this volume, and is the less necessary, that in a preceding volume\* I have treated of the subject at some length, where I have endeavoured to show that all arts and sciences took their rise in Egypt. Here, therefore, I will only add, that among many other arts and sciences, which were invented in that country, there was one science which the nature of their country made necessary; I mean Geometry, by which the bounds and marks of the several lands, that were confounded by the overflowing of the Nile, were preserved; and from thence the science had its name, and was called *Geometry*. But though Geometry, among us, be not a science so necessary as it was in Egypt, it is an useful science; and considered philosophically,

Vol. VI.

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cally,

\* Vol. IV. Book II.

ally, as *quantity* is one of the Categories, and a most general idea, containing under it *quantity continuous*, that is *magnitude*, and *quantity discrete*, that is *number*, it is fit that we should understand the nature of both and their several qualities. And besides, as it is less abstracted from matter than any other science, and its demonstrations taken from objects presented to the senses, it is the first science that men should be taught; and accordingly it was the first science taught in the school of Pythagoras, the greatest school of learning among the Greeks; and he thought it so necessary for the beginning of science, that, upon the gate of his school, he inscribed

οὐδὲν ἀγεόμεροντος εἰσιτα.

Thus it appears, that the wisdom and goodness of God have so ordered matters on this our earth, that civil society affords us the means of regaining, in some degree, the state from which we had fallen, first by giving us the use of intellect, and then by our improving that intellect by arts and sciences. But this cannot be done in any great degree if the government of the society be not such as it ought to be; for government is of absolute necessity in all civil societies. Upon this subject I have said a great deal in the the 4th volume of this work, Book II. Chap. VIII. and IX.; and I will only add here, that it is chiefly the governor who makes the government good or bad; for it belongs to him to form the people, and to make them such as they ought to be. But, as I have said in the 4th volume above quoted\*, it is *Nature* chiefly, that qualifies a man to be a governor; for, let his education be what it will, if by nature he be not fitted to govern, he never will be a good governor. Now, it is from our race that we derive our nature, and, among other qualities, a virtuous disposition; and the inheritance of such qualities is what we call, or should call, *Nobility*, and accordingly Aristotle has told us that *Nobility is the virtue*

of

*of the race*\*. We are, therefore, to consider nobility, not as a thing merely of human institution, but as having a foundation in nature. Nor is it peculiar to our species; for there is a distinction of races in all the animals that we are acquainted with, such as horses, dogs, and oxen; and, indeed, if there were no such distinction among men, civil society could never be properly constituted, nor answer the ends which God and Nature have proposed by it: For, if all men were equally fit to govern, there would not be that proper subordination of men which government requires; and if they were all unfit to govern, there could be no good government among them, nor indeed any thing that deserves the name of government.

In this way, as I have shown in the chapter above quoted, were governed the finest states of which we read in antient history, particularly the heroic states of Greece, such as that of Sparta, and the state of Rome as long as the distinction of Patricians and Plebeians was preserved, and the two races not mixed together, nor allowed to enjoy promiscuously all the great offices of state. But it was in Egypt, more than in any other country, that the discrimination of the races of men was preserved, and the best men set apart, not only to give counsel in the administration of the government, but to preside over the religion of the country, and to cultivate arts and sciences; which three offices were, I think, very properly joined together, and made Egypt not only the best governed country that, I believe, ever was, but made it the parent country of all arts and sciences†.

Nor were the Egyptians less eminent for their religion than for their arts, sciences, and government. And this leads me to speak of the greatest of all the discoveries which civil life and its arts and

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sciences

\* See p. 184. of Vol. IV. of this work.

† Of the Egyptian government see Vol. IV. Book II. Chap. X.

sciences have produced among men, and that is the knowledge of God and of his attributes of wisdom and goodness, without which knowledge we never can make any great progress towards regaining the state from which we are fallen: For our intelligence can never be brought to any degree of perfection but by the study and knowledge of what is most perfect of intelligence. Now, the Egyptians, by their cultivation of arts and sciences, advanced so far in religion, as to discover that there was only one Supreme Being, that there was a future state of rewards and punishments, and also that man had existed in a prior and more perfect state from which he had fallen. This was the philosophical religion in Egypt; for it was the religion of their Priests, that is, their *Philosophers*, and was communicated as a mystery only to a few chosen men under the seal of profound secrecy; nor was communicated at once, but at two different times and at the distance of four years, being divided into what they called the greater and the lesser mysteries\*. But there was a popular religion for the country, which was very proper; and this was the religion of the vulgar; and from Egypt it went to Greece, and from Greece to Italy. But even this religion was not, as is commonly believed, a religion of Polytheism; for there was in it one God superior to the rest, who therefore were to be considered as his ministers.

These so great discoveries in religion I do not think the Egyptians, with all their arts and sciences, could have made, without the assistance of those Kings whom they called *Gods*, who, though they were not Gods, were, I am persuaded, of a nature superior to men, and therefore are, by Plutarch, as I have elsewhere observed †, very properly called *Dæmons*, that is, something betwixt *Gods* and *Men*. And I think it is very natural to suppose that the wisdom and goodness

\* Of these mysteries I have spoken at great length in the fourth volume of this work, p. 399. and following.

† Vol. IV. p. 158.

ness of God would give some supernatural assistance to the most antient nation in the world, and to which we owe so many arts and sciences, and indeed I may say all the arts and sciences which we possess, and by which we have been enabled to make some progress towards regaining the state from which we are fallen.

Besides these religious doctrines which were contained in their lesser and greater mysteries, they knew even the mystery of the Trinity; for in Egypt Plato learned it\*, and with it his doctrine of ideas, which I think I have shown to be necessarily connected with the doctrine of the Trinity, so that both together make a compleat system of the philosophy of Nature and of Theology. All this learning we cannot get from the books of the Egyptians, which are not now extant, or if they were, we could not understand them. But we have it from Greek authors, such as Herodotus and Plato, who were in the country, and learned their philosophy from the Egyptians themselves, with whom they conversed; which was better than learning it from books: And a man, now-a-days, that has employed his time in the study of the Greek authors, who, besides what they learned of philosophy from the Egyptians, cultivated it much themselves, and have preserved to us a great deal of the philosophy of Pythagoras, who was in Egypt above 20 years, and, I am persuaded, learned more of the Egyptian philosophy than all the other Greeks;—such a man will certainly very much improve his intellectual mind, which is the noblest part of his composition, and distinguishes him from all the other animals on this earth, and in this way will prepare himself for further improvements of his intellect, and consequently for the enjoyment of greater happiness in a future state.

C H A P.

\* Vol. IV. p. 165.



## C H A P. XIV.

*Many of our Modern Discoveries owing to our Vices and Crimes, such as the love of Money, which has produced the Discovery of America and the West Indies—also of the Cape of Good Hope and Greenland.—Praise of Captain Cooke's Voyages of Discovery.—Advantages of the Discoveries of the Moderns, in Geography and Navigation—in the Natural History of the Earth and its Inhabitants, particularly in the Natural History of Man.—Of the Modern inventions of Clocks and Watches—Window-glass—the Compass—Paper—and Printing.—A sense of the Beautiful congenial to Man,—accompanies him in all his progress from the State of Nature to Civility.*

FROM what I have said in the two preceding chapters, it appears that antient nations have, by the means of civil society, invented and cultivated many arts and sciences, and thereby very much improved their knowledge, and consequently their intelligence. In this chapter I propose to show that the moderns have not been wanting, though in a degree much inferior to the antients, in the improvement of their intelligence by arts and sciences also.

It is a melancholy reflection, that our present life in Europe should be destructive both of health and morals, and thereby tend very much to lessen the numbers of people in the several nations; yet, I think, I have said enough in the course of this work, and particularly in the preceding volume, where I have treated of the state of population in modern times, compared with  
antient

antient, to establish this truth. The state of civility in Europe, however, has its advantages; for it contributes not a little to the increase of our knowledge, and makes us certainly creatures more intelligent than we could have been if we had continued in the natural state, and even more intelligent in some respects than the most learned among the antients. The very many arts which we practise at present in the nations of Europe, tend to improve our knowledge, and consequently our intelligence. And even some of our vices have a great tendency that way; particularly there is the love of money, which is said to be the root of all evil, and undoubtedly produces more crimes and vices than all our other passions put together, but which has wonderfully enlarged our sphere of knowledge, and may be said to have discovered to us this earth that we inhabit, which was very imperfectly known to the antients. It is the love of money which has made men go all over the earth in search of it. It was this passion that made the Portuguese undertake that wonderful voyage by the Cape of Good Hope to the East Indies, in which they have been followed by the Dutch, the French, and the English, who have settled colonies there, by which means that fine country, perhaps the finest in the world, but which was hardly known at all to the antients, is now perfectly well known. Many attempts have been made to find a shorter way to this country than by the way which the Portuguese had discovered, by the Cape of Good Hope, particularly by the north-west, all from the same motive, the love of money; and in these attempts a great many countries have been discovered that before were altogether unknown. And there is a country which is more *extra anni solisque vias* than any other country we know, and which we should not have thought habitable by man, if it had not been discovered by these adventurers in search of a shorter passage to the East Indies, and found to be actually inhabited. The country I mean is Greenland, which was first peopled from the island of Iceland, likewise.

wife utterly unknown to the antients and to the moderns till the sixteenth century. And there is another country, so large that it may be reckoned a half or at least a third part of the Globe, which was utterly unknown to the antients, and even to the moderns till about the end of the fifteenth century, when it was discovered by the Spaniards, under Christopher Columbus, who undertook the voyage for the discovery of a shorter passage to India, through an ocean very little known at that time, (I mean the *Atlantic*), and made a settlement in this New World, in which he has been followed by some other nations of Europe, particularly the English; and all this for the love of money.

The English have the praise to have made great discoveries, not with any view to trade or money, but solely for the discovery of this our globe of earth. The discoveries I mean, are those they made in that part of the Great South Sea which is called the Pacific Ocean; where they have discovered a great many islands, and one, the largest in the world, New Holland. These discoveries were chiefly made by Captain Cooke, who went round the world thrice at the public expence, and with no other view than to enlarge our knowledge of this earth. The Dutch first discovered this great island, and gave it the name of *New Holland*. But they knew nothing of the state of the country, not so much as that it was an island, which was first discovered by Captain Cooke. Before that, it was believed to be a part of a great antarctic continent, which was supposed to exist, resembling the arctic continent upon which we live. The British have also discovered, by means of this famous navigator, Captain Cooke, another country, without any view to trade or money, and which, I think, is a great curiosity; I mean New Zealand, where the people live not far removed from the natural state, and in the first age of civil society, uncorrupted by the crimes and vices of such societies as those of Europe at present. Of  
their

their noble and magnanimous behaviour to us I have said a good deal in Vol. IV. of this work \*.

But, besides the discovery of so many particular countries, we have made a discovery with respect to this globe we inhabit, which may be said to comprehend the whole Geography of the earth. It is the discovery that our earth is surrounded, and as it were inclosed, by an Ocean, distinguished in its different parts by different names, such as the North Sea, the Atlantic Ocean, the Pacific Ocean, or Great South Sea, and the Eastern Ocean, all connected together, and communicating with one another; the consequence of which is, that we are able to circumnavigate our globe, which has been done by several of our navigators, particularly by Captain Cooke, who, as I have said, went thrice round it. So that by means of the three great Oceans I have mentioned, and their communication with lesser seas in the inland countries, such as the Mediterranean, for example, and the Baltic, we are able to sail to almost every part of our earth, even to within not many degrees of either of the Poles, which we seem to be prevented from approaching by ice only.

By these means, I think, we have acquired a greater degree of natural knowledge than the antients could have had, not only of our earth in general, and of the situation of the several parts of it with respect to one another, but of the several animals inhabiting it, of whom we have discovered several specieses utterly unknown to the antients: And particularly we have acquired, what is certainly, with respect to us, the most valuable knowledge we can have of animals; I mean the knowledge of the animals of our own species; of whom, by our voyages to so many parts of the earth and by our settlements there, we have discovered a wonderful variety, greater than could have been imagined of the

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\* Page 57.

same species of animals; for we have found him in all the different steps of his progress from a mere brute to an animal of intellect and science. The inhabitants of New Holland have got no farther than the first step in that progress. Of them we have a very particular account in a work entitled, *The History of New Holland*, which is a collection from all the books of travels to that great island. From what we are told in this book, it appears that the New Hollanders have got no kind of art among them, except the use of some sort of language, which they certainly did not invent, but must have acquired by their intercourse with some other nation. They have also the use of fire: But as to houses, they have none, not even huts; nor do they live in caves, but, as the antient inhabitants of Italy did when Saturn came among them, in the hollows of trees, which they make by fire\*. Neither have they any use of clothes, for they go quite naked: But, by way of ornament, they make large punctures or furrows on different parts of their bodies, some in straight, and others in curved lines†; so that they do not paint their bodies, as some other barbarous nations do, but rather carve them, which our author very properly considers as a proof of their love of finery.

The authors, who mention those New Hollanders, speak nothing of their government; but, as they live in herds separated from one another, I think there must be some kind of government among them, (though but a very imperfect one), otherwise they could not be kept distinct from one another.

The next step in this progress is, I think, that of the inhabitants of the Ladrone islands, who, in one respect, when the Europeans first came among them, were in a state still more rude than that of  
the

\* See p. 70. of this *History of New Holland*.

† *Ibid.* p. 55.



the New Hollanders; for they had not the use of fire, that great instrument of civil life, till they learned it from the Spaniards, their first visitors: But now that they have got the use of fire, they are in a state more civilised than the New Hollanders; and they are governed by a race of nobles, though without any regular form of government. As to religion, they had none till the Jesuits came among them\*.

There are other people who are in the infant state of civil society, such as the Carraibs were when they were first discovered by the French. Of these I have spoken elsewhere†; and I shall now proceed to the new discovered people of the Pelew Islands, who, I think, are in a more perfect state of civil society than any of those nations we call *barbarous*; and, indeed, I think, that without the invention and cultivation of arts and sciences there cannot be a more perfect state of civil society. They live under a regular government of a king, a council, and an order of nobles; they practise every virtue belonging to the human kind; and when we were among them they shewed a love of knowledge, which is natural to an animal of intelligence, but which we have not found in any other barbarous nation‡.

Beyond these Pelew men there is only one other step, and which compleats the progress of civility; but which is only to be found in the nations of Europe. The state I mean is, that in which arts are invented or practised, and not only what we call the necessary arts of life, but arts of elegance and refinement, such as Music, Poetry, Painting, and Statuary. But even these we have not invented; for they have come down to us from the antient world. We have,

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however,

\* Vol. V. p. 5.

† Vol. III. p. 74.

‡ See what I have said of them, Vol. V. p. 56. &amp;c.



however, invented some, and these most useful arts, such as that mechanical art of *clock-making*, by which we measure the *fuga temporis*, as Horace calls it, (a thing the most voluble and fleeting that we know), much better than the antients did by their *Clepsydra*. And not only do we measure *time* (the most valuable thing we enjoy at present, as upon the right use of it depends both our happiness in this life and in the life to come) by the instrument before mentioned that we keep in our houses, but by another instrument called a *watch*, that we carry about with us in a small pocket. And there is a thing which was altogether unknown to the antients, although most useful for domestic life, that we have also invented; I mean glass for our windows, by which we see *the bright light of the sun* (which to see, is, in Homer's language, *to live* \*,) without being incommoded by wind or cold. And, indeed, I think the enjoyment of the sun, not obscured by clouds or fogs, but shining with full lustre, is a great pleasure of life; and I am persuaded that the heat of the sun,

————— whose energy divine

(as Dr Armstrong says in his poem upon *Health*)

Dwells not in mortal fire, ———

is much more conducive to the health both of animals and vegetables than our culinary fire. Pliny mentions a Roman who was in use to sit for hours naked in the sun, which he supposed contributed much to his health; and our dogs, though they be very fond of the fire, and though there be a fire in the room, yet if the sun be shining in it, chuse rather to lie in the sunshine than upon the hearth. But the antients, who had windows in their houses as well as we, must have had them always open or shut like their doors.

Besides these inventions, so useful at land, we have invented a most useful.

\* ——— ὁρᾷ λαμπρὰ φῆς; ἡλιόιοι.

useful instrument in navigation, without which we never could have made those great discoveries of countries before mentioned and of the whole frame of this our earth; I mean the mariner's *Compass*. We have also discovered another art, that is, the art of making a very valuable commodity of very mean materials; I mean *Paper*; without the use of which, and of another greater art still, the art of Printing, which we have likewise invented, antient learning could not have been restored, or propagated as it has been all over the west of Europe.

It is here to be observed, that man, in his progress from the most imperfect state of civil society to a more perfect one, has a sense of the *Beautiful*, which appears to be so congenial to intellect, that an animal cannot have the least degree of intellect, without having, at the same time, a sense of the beautiful. But the perception of beauty that a man then has, cannot be of the beauty of mind, or of characters or sentiments; but it must be of the beauty of *body*, and even that not of the finest kind. We have hitherto found no nation in so barbarous a state, that they have not some perception of that kind, particularly with respect to their own bodies. Even the inhabitants of New Holland, who have made only the first step towards the acquisition of intellect by civil society, adorn their bodies, as I have shown, by carving them: And the Orang Outang, though he has very little more than the capacity of intellect, appears, as I have shown in the account I have given of him\*, to have a sense of what is decent and becoming. Now, as a sense of the beautiful is, as I have shown†, the foundation of virtue, and, I may add, of religion,

\* See Vol. IV. p. 26. and the passages there referred to, where there are many things mentioned which prove incontestibly, I think, that he is a man; though if there were no other but his sense of what is *decent and becoming*, I should think that sufficient.

† Page 119. and the passage there referred to.

gion, (for no man can be truly religious who does not perceive the beauty of holiness), this shows the wisdom and goodness of God, who has made a sense of the beautiful so congenial to our nature as intelligent beings, that we cannot have the least degree of intelligence without some sense of it.—So that we appear to be formed by nature for virtue and religion.

## CHAP.

## C H A P. XV.

*From the History of Antient and Modern Times, Man appears to be going on in the recovery from his Fallen State.—Inquiry into the Origin of Evil.—Evil either Natural or Moral.—Natural Evil already considered.—Moral Evil belongs to the Intellectual Nature—the consequence of Our Fall.—Our recovery only to be made in Civil Society:—There we are governed by Opinion,—and therefore are liable to error, and, its consequence, misery.—Two Sources of Moral Evil:—1st, Indulgence in pleasures of Sense;—these increased by the Civilised Life;—Discases the consequence of that indulgence:—2d, The Errors of the Intellect with respect to the Beautiful in Sentiments and Actions:—The consequences of these—Ambition, Wars, Conquests, and the Desolation of the Earth by great Empires,—the love of Money,—Vanity in Dress, Equipage, &c.*

THUS, I think, I have shown, that man, by his Fall, lost the use of intellect, retaining only the capacity of it: But this capacity he cannot exert, except by the intercourse with his fellow creatures, which civil society gives him; and by civil society I have shown that he not only acquires the use of intellect, but brings it to a very considerable degree of perfection. This we know with the greatest certainty, from what is preserved to us of the learning of antient nations, particularly of the Egyptians and Greeks: And even in modern times I have shown that we have acquired a great deal of knowledge of this our earth, and of the several nations inhabiting it;

it; and likewise that we have invented several most useful arts. It therefore appears, from the history both of antient and modern times, that man is going on to answer the end for which he was intended 'by his life in this world; that is, to make some progress towards the recovery from his fallen state, by the acquisition of the use of his intellect, and by the improvement of it. Now, intellect is the prime quality of an intelligent animal, and what makes him such; and in man it is the foundation not only of arts and sciences, but of virtue and religion, and of every quality of any value which he possesses.

Such is the state of man in this life with respect to intelligence. I am now to inquire how he is as to *happiness* or *misery*, that is *good* or *ill*, in this life: And this leads us directly to the solution of the grand question, which I have proposed, concerning the origin of evil.

Evil is either *Natural* or *Moral*. What we call *Natural Evil*, is what happens in the material world by hurricanes, earthquakes, eruptions of burning mountains, and such like commotions of the elements here below: Of these I have spoken in a preceding part of this volume\*, where I have shown that these events, though they happen but rarely, are produced as necessarily as the common phenomena of nature. Of the same kind are tempests and bad seasons, which destroy the fruits of the earth: For these all proceed from those general laws of nature, by which the system must be governed, otherwise it would be no system; and, as God is the author of nature, the laws of nature are his laws, which he can no more alter than he can alter his own nature†.

As to *Moral Evil*, it belongs only to the intellectual animal, and is

\* Page 122.

† Page 146. and 147.

is what we call *wickedness*, *vice*, or *folly*: It was the consequence of the fall of man, towards the recovery of which he cannot make any progress in this life, as I have shown, except by civil society. Now, as in civil society man is not governed as he was in the natural state, that is by instinct as the brutes are, but by his own reason forming an opinion of what is good or ill, it was impossible that, with a weak intellect, very much weaker than that which he had before his fall, he should not fall into many errors, and consequently make himself very unhappy; which I have shown in the preceding volume to be the case.

Here, I think, it is proper to observe, that there are two sources of moral evil in this life, both of them arising from our wrong judgment of what is good or ill. The first is indulgence in all the pleasures of sense, of which the civilised life affords very many more than are to be found in the natural life, in which men can only indulge their appetites with the natural productions of the earth, in the same way that brutes, such as horses and oxen, do. Now, the indulgence of our appetites with all the luxuries and delicacies, both of eating and drinking, which the arts of man have furnished, must necessarily deprave our intellect, and make it employ itself in devising means for gratifying these appetites, instead of employing itself in its improvement and progress towards a better state. And not only is the consequence of this indulgence in sensual pleasure very great with respect to the mind; but when it is accompanied, as it commonly is, with indolence and ease, it produces diseases without number, and these not confined to the parents, but going to the children, and so affecting the whole race. Man, living in the natural way, that is, upon the fruits of the earth, and without the use of flesh prepared by fire or of wine or strong liquors of any kind, I hold not to be liable to any disease, any more than the other animals of this earth that live in the natural way: And, indeed, it would be impeaching the



wisdom and goodness of God, to suppose that he had so framed the noblest animal on this earth, and the image of himself, as to be the only animal liable to those internal disorders, we call diseases; and, accordingly, we do not read of any one of the Antedeluvian Patriarchs, who all lived upon the natural fruits of the earth, without the use of flesh or of strong liquors, though we have a very particular account of their lives and deaths, that died of any disease.

As to the eating of flesh—If it were eaten always with vegetables, and used only to give a relish to vegetables, which is the way I eat it, I am persuaded it would not produce near so many diseases: Whereas, if it be eaten in great quantities, as it was by the inhabitants of Paraguay, whose only food it appears to have been before they were civilised, or, as it may be more properly expressed, *humanized* by the Spaniards\*, it produces a great number of diseases, even without the use of strong liquors, which the Paraguayans had not; for, as we are told, they were more diseased than any other barbarous nation.

The other source of the misery of man, in the civilised state, does not proceed from his indulgence in sensual pleasures, but from the intellect itself; for it proceeds from the sense of the Beautiful, the *το καλόν* of the Greeks and the *pulchrum* and *bonestum* of the Latins. When a proper use is made of this sense, it is, as I have shown, the foundation of virtue, and also of religion: For there can be no true religion without a sense of the beauty of holiness; and, as beauty is the object of love, the love of God is also a necessary part of religion, and love, as our Scripture tells us, without any mixture of fear †. But in the sense of the beautiful, as in other things, our im-

perfect

\* See Vol. IV. of this work, p. 98.

† See what I have said at some length on this subject, in p. 391. of Vol. IV. of this work.

perfect intellect often errs; and then we are deceived with false notions of the beautiful in sentiments and actions. In private life, when this happens, it is called Vanity; which, though it may not make a man miserable in any great degree, makes him contemptible: In public life it gets the name of Ambition, which produces great disorders in the government of states when it prevails among the subjects; but, when it becomes the passion of kings and governors, their ambition produces wars and conquests, and wonderful events in the affairs of men. It was ambition which, in antient times, produced those great empires, the Assyrian, that of the Medes, the Persian, and, the greatest of all, the Roman; all which, and particularly the last, may be said to have almost desolated the earth. Beauty naturally produces admiration; and, therefore, a man, who thinks himself possessed of that quality, admires himself, and desires that others should admire him, and that they should express their admiration by praise, and by allowing him a pre-eminence in all the business of life, and particularly in government. From this motive those conquerors, who established the empires I have mentioned, asserted that pre-eminence, to which they thought they were entitled, by force of arms. This mistaken sense of the beautiful, therefore, I hold to be the foundation of all the great empires I have mentioned; and, even in private life, when joined with the pleasures of sense, it is the source of all the misery of man in this state of his existence.

But it will be asked, What is the thing I call *Beauty*, which, I say, has produced such wonderful effects in human life? This question I have answered in the Vth. volume of this work; \* where I have said, “ That it is a perception, which the intellect, and  
 “ the intellect only, has of a certain union and congruity of several  
 “ things, which makes them in some sense *one*, or in other words, a  
 “ *system*, which we perceive not only in different objects, but in

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“ the

\* Page 120, &amp;c.

“ the parts of the same object.” In this volume\* I have shown the difference betwixt the *Beautiful* and the *Good*. From the passage of Vol. V. above quoted, it appears that I may claim the merit of having first given a definition of the *Beautiful*; a thing of so very great influence in human life, that the nature of it should be most carefully studied by every philosopher: For it is not only the foundation, as I have shown, of virtue and religion, but it is the source of that principle which is so predominant in human nature, that a man, who is entirely void of it, cannot be considered to be a man; I mean the principle of honour †. It produces also that love which every man of genius and taste has for the sciences and fine arts; for such a man loves them, not for the profit they may bring him, but for their beauty—In short, it is the source of every thing that is great and noble in our natures or that can make us happy. I therefore think, that the Stoicks were in the right, when they maintained that the *το καλον* was not only the *summum bonum*, or *chief good*, but the only *good* of man; and, indeed, it is the only good and the only pleasure of his intellect, by which he is a man, and is distinguished from all the other animals of this earth ‡. And it is the only pleasure of all intellectual beings, even of the Supreme Being; for, as we are told in the last verse of the first chapter of *Genesis*, God, after he had finished his whole work of creation, saw all things that he had made, “ And behold they were *καλα λικον*,” as it is in the Septuagint, that is, *very beautiful*, not *very good*, as we have translated it: And, as he saw that these things were *very beautiful*, they must have given him pleasure. In the passage, nevertheless, which I have quoted from Volume V. of this work, I have shown, that, though Plato and Aristotle have spoken a great deal, and particularly Plato, of the *το καλοι*, yet neither of them have given

\* Page 118.

† Vol. V. p. 125.

‡ See on this subject Vol. V. p. 135.—and Chap. XIV. of Book III. of the same volume.

given us any definition of it. Aristotle, indeed, has told us one property of it, that it must consist of things which are not very small;—nor yet very great, such as, he says, an animal of 10,000 stadia would be\*. This, I think, shows that he considered beauty as belonging only to material or corporeal things: Whereas, I think, it is evident, as I have said in the volume above referred to†, that we perceive *Beauty* not only in corporeal objects but in minds, that is, in characters and sentiments and in the works from these proceeding; and, indeed, this is the beauty of the highest kind. As to Plato, though he has written a whole Dialogue, which he calls the Συμποισιον or the *Banquet*, upon the subject of *Beauty*, he has not told us what it is; and though he makes Socrates, who is a speaker there, say, “That to know perfectly what *Beauty* is, or the *αὐτὸ το καλόν*, is “the greatest wisdom and the greatest happiness of men‡,” yet he has not so much as attempted to give us a definition of it: And he has written another Dialogue upon the subject, as I have observed in the passage above quoted§, entitled, *Hippias Major*, in which he refutes several opinions concerning the *το καλόν*, but gives no opinion of his own, concluding the Dialogue with the common Greek proverbial saying, *χλεῖπα τὰ καλὰ*. Cicero, also speaking of the *pulchrum* and *honestum*, instead of giving us a definition of it, refers us to the natural sense which every one has of it: His words are, *Honestum igitur id intelligimus, quod tale est, ut, detracta omni utilitate, sine ullis præmiis fructibusve, per seipsum possit jure laudari: Quod quale sit, non tam definitione, qua sum usus, intelligi potest, (quanquam aliquantum potest), quam communi omnium judicio, et optimi cujusque studiis atque factis; qui permulta ob eam unam causam faciunt, quia decet, quia rectum, quia honestum est, etsi nullum consecuturum emolumentum vident*||. So that Cicero

not

\* See Vol. V. p. 121.

† Page 123.

‡ Ibid. p. 122.

§ Ibid. p. 121.

|| Lib. II. *De Finibus*, Cap. 14.

not only has not defined the beautiful, any more than Plato or Aristotle, but has said that it could not be defined, being only to be apprehended by the common sense and feelings of men. As to Aristotle, however, I think I should not do justice to him, if I did not observe that he wrote a book upon the subject of *the Beautiful*, which is now lost \*. This, I think, shows that he himself was not satisfied, any more than I am, with the account he has given us of the beautiful in his Poetics and Rhetoric. If that book, upon the beautiful, had been preserved, it would have made the matter quite clear, and saved me a great deal of trouble.

And here we may observe an essential difference betwixt the perceptions of sense and those of intellect; for the sense only perceives corporeal objects, either one single object, or many of them together, but all and each of them by itself and without any relation to any thing else: Whereas the intellect perceives things only as they are connected together and have a relation to one another. Thus it is the intellect, and the intellect only, which perceives the genres and specieses of things: Even individual objects of sense it perceives only by connecting together the several qualities of the objects, and in that way making *one* of them; in which way, as I have observed †, the intellect forms an idea of a particular object of sense. It is, therefore, the intellect, and the intellect only, that makes *one* of the *many*; wherein, as I have shown ‡, all science consists, which is produced by intelligence, and intelligence only, though sense furnish the materials.—And thus, I think, I have clearly explained the difference betwixt the perceptions of sense and those of intellect; a difference, which has not, I think, been sufficiently attended to, neither by antient nor modern philosophers: And from the difference betwixt these two perceptions, I think, I have made it evident, that beauty must be a perception of the intellect, and not of the sense.

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\* See p. 105 of Vol. II. of this work.

† Page 167.

‡ Page 173.



Those two passions, the one for sensual pleasures, the other for beauty, are generally accompanied with another passion; I mean the love of money, which furnishes a man not only all the sensual pleasures he can wish for, but every thing that can procure him praise and admiration not only for the splendour of his table, but for all the finery of his dress, of his house, of his equipage, and of every thing that can attract the admiration of men.

That all these passions and pursuits proceed from the sense which we have of the beautiful, I think is evident; for as to dress, equipage, buildings, &c. we perceive beauty in them, which makes us desire them. But of all the things I have mentioned, there is nothing we desire so much as admiration and praise, because the subject of it is the beauty, not of such things as I have mentioned, but of ourselves; and which, therefore, gives us the greatest pleasure. Governing other men gives us also that pleasure in a high degree, because it makes us believe that we are much superior to the men we govern: And this is the foundation of the passion of ambition, which, as I have observed, has produced such great events in human life.

But as the civilised life was absolutely necessary for man's making any progress in this life towards a recovery from his fallen state, what evil it produces must be reckoned in some degree necessary and unavoidable, (at least with respect to some men), when the imperfect state of our intellect is considered. At the same time, I think, it could not well be reconciled with the wisdom and goodness of God, if all men in that state were necessarily miserable. But that is not the case: For some men, by cultivating arts and sciences, may improve their intellect so much, as to prevent those errors, which men, in the civil life, fall into, and which are the cause of all their misery; and, if to the improvement of their intelligence by arts and sciences



sciences be joined religion, or even if there be, without arts and sciences, religion alone, if it be a good religion, there is nothing that hinders them to be happy in this life to a certain degree.

But man being governed, as I have said, in the civilised state by his free will, his happiness or misery must depend upon the use he makes of that will; for in this life, as well as in his preceding state, he has it in his power to alter his nature, and to make himself as it were another man. If he take to religion and virtue, he will enjoy all the happiness that he is capable of enjoying in this life: If, on the other hand, he take to vice and folly, he will be a miserable man upon the whole; though he will no doubt have some pleasure in the gratification of his vices and follies, but much overbalanced by the pains attending them; and for this reason I have said\* what may appear to many of my readers an extraordinary paradox, That man even in this life enjoys all the happiness that his nature is capable of.

CHAP.

\* Page 131.

## C H A P. XVI.

*The Evil Man suffers proceeds from the abuse of his faculties of Body and Mind.—A life of Nature free from disease.—What that life is.—As to diet, it is Vegetables.—If Flesh is to be used, it should be raw, as it is used by the Carnivorous Animals.—Bad effects of our improvements in Luxury:—Our Drink as unnatural as our Food;—Fermented Liquors, Wine and Spirits.—The great age of the Antedeluvian Patriarchs to be attributed to their simple Diet, consisting of the Natural Fruits of the Earth,—without Flesh, Wine, or other strong Liquors. — Houses and Clothes not necessary for Animals in the natural State.—This proved from examples.—The Natural Life of Man in the open air —Caves the first Houses used by Man;—In these the Cyclops lived.—Then Clothes were invented:—Evils resulting from the use of them;—they are not necessary for the coldest climates;—Anacharsis, the Scythian's, reason for going naked.—Of the invention of Fire, and its pernicious effects.—Impossible that Man, living so unnaturally, should be so long lived and healthy as he might be by living the life of Nature:—The Evils of Man's artificial life to be alleviated by the open Air, the Cold Bath, Anointing, Physic, and Exercise.—Evils attending excesses in Venery and the unnatural uses of it.*

**A**S Man, in this life, is composed of mind and body, it is evident that all the evil he here suffers must proceed from his mind or body, or from both: And, I think, I have said enough to prove that God or Nature is not the cause of the evils which he suffers, but he himself, by an abuse of the faculties of mind and body, which

God has bestowed upon him, and which, if rightly used, would have given him all the happiness of which his nature, in this state of his existence, is capable.

As to his body, it is evident, from the case of the brute animals, that if he had lived as they do, that is in the way that God and Nature had appointed he should live, he would have been as free of disease, which is the greatest affliction of body that we are liable to, as they are: For the wisdom and goodness of God has appointed certain ways of living for the different specieses of animals; and there is no natural philosopher, who can doubt that every brute in the natural state lives in a manner which is suitable to his nature, and which makes him happier than he would be if he lived in any other way. The same, I say, is the case of man, who, as he is the chief animal on this earth, is destined by God and Nature to pursue a manner of life which would make him happier, with respect to his body, than if he lived in any other way. The question, therefore, is, what that manner of life is? And, *first*, with respect to his diet, as he is not an animal of prey, or a carnivorous animal, as the lion or tiger is, his natural diet is not flesh, like theirs, but vegetables, such as feed the other animals of this earth that are not carnivorous. The flesh diet, therefore, is an unnatural diet for man, especially as it is used by the nations of Europe, that is, prepared by fire; for, if he is to use it, it is much better that he should use it as the wild beasts do, whose natural food it is, that is, raw and as it comes from the animal. In this way our famous traveller, Mr Bruce, told me he ate flesh in Abyssinia, in the same manner that the people of that country eat it, that is, taken directly from the animal, without any preparation by fire or otherwise, and warm with the animal life; and he assured me that he never ate flesh that he digested better: And the Wild Girl, whom I saw in France, told me that the first flesh she ate, roasted or boiled, lay upon her stomach like as much lead, and threw her in-

to a very dangerous illness, from which she recovered chiefly by sucking the warm blood of chickens\*. But we in Europe, not contented with boiling, roasting, or broiling our flesh, give it a relish with salt, which Sallust, the Roman historian, very properly reckons one of the *irritamenta gulæ*, and which the North Americans do not use, saying that it produces many of the diseases to which we are liable†; and it is certain that salt makes us both eat and drink more than we should do otherwise. But the wealthy among us, not content with that seasoning for their flesh, use many others, and make of it, what they call *made dishes*, with high sauces, tending to provoke their appetites to eat more than nature requires. And not content with flesh, which the earth or air produces, we go to another element to seek for food; I mean the water, from which we take fish that we eat. This was thought by the Egyptians; the most antient, and, I believe, the wisest people which ever existed, so unnatural food, that they did not use it, though their river abounded with it: And even the Greeks did not use it at the time of the Trojan war, as I have said in Vol. III. of this work‡, except when they could get no other food. And fish we use not only prepared by fire, but dressed with the finest sauces we can contrive. This is the food which we have devised for ourselves, in place of that which God and Nature have destined for us. As to our drink, it is still more unnatural; for it is not the drink of any other animal that lives either on the earth, in the air, or in the waters, but altogether an artificial drink. Some of it is made by fermentation, such as wine and beer, which are not natural drinks; and, therefore, the inhabitants of New Zealand, and those of Terra Del Fuego, one of the coldest climates in the world, as they both live in a natural way, will not, as I have been informed, be persuaded to taste them: But, in modern times, we have invented another

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drink.

\* Vol. III. p. 176.

† Ibid. p. 171.

‡ Page 93.

drink still more artificial, and as unnatural as can be conceived ; I mean spirits, which are made by distillation from fermented liquors, and are so far from being fit for the drink of any animal, that they are fuel for fire, and produce a most sudden and violent flame. And not only do we use this most unnatural liquor, unknown to the antients, but we do not use wine as they did, that is, mixed with water, but we use even wine and brandy, that is, what is called *Port*, without any mixture of water.

The use of these strong liquors, being an unnatural drink, not only hurts the body, but also the mind ; and, indeed, taken to excess, they deprive us altogether of what is most valuable in our mind, and which distinguishes us from all the other animals of this earth, that is, our intelligence.

That a wise and good God should have destined such a diet, so destructive both to mind and body, for the principal animal here on earth, and so different from that which he has allotted to inferior animals, is altogether incredible, and, I think, impious to believe. But, if there were any doubt in theory, the lives of the Antedeluvian Patriarchs make it evident from fact. Of these I have spoken at some length in Vol. III. of this work \*. Feeding upon the natural fruits of the earth, they lived to a very great age, some of them above 900 years. But, after the deluge, when men ate flesh and drank wine, the length of their lives gradually decreased. And if we are such unbelievers as not to credit what we are told in our bible, of the length of the lives of those antient patriarchs, while they

\* Page 121 and following.—It may be observed, that there is a greater collection, in that 3d volume, concerning the various ways of men living in the different ages of the world, the length of their lives, their health and their size, than, I believe, is to be found in any one book extant ; and which, I think, is worth the readers perusing from curiosity merely, if he were to draw no philosophical conclusions from it.



they fed upon the natural fruits of the earth and drank no wine, we cannot likewise disbelieve what several authors, both Greek and Latin, have told us of the long lives of men \*.

And thus much may suffice with respect to our diet. I come now to speak of another thing in our manner of living, which I think of still greater consequence; I mean our houses and our clothes. Of this I have said a good deal in Vol. III. of this work†; but I think it a matter of such consequence, that I will add several things here to what I have there said.

That the natural life of the brute animals is their best way of living, to which their instinct directs them, I think I have clearly proved in the passage already referred to; and particularly from the example of horses, which has fallen under my own observation: For I have shown, that by their instinct they are not directed to go into a stable, though the door be open, except to feed; and, after they have fed, to come out again, even in the most stormy nights, and to lye in the fields: And that in a day of wind and rain, when they have an open shade to go into, they will only shelter their heads and ears from the weather, leaving their bodies exposed to it‡. There are animals which, by nature, are destined to live under ground, such as moles; but man is none of these: And, therefore, I cannot believe that he is an exception to the general law of nature, by which all the other animals of this earth are prompted by their natures, that is, by instinct, to live in the open air, with the shelter sometimes of a bank or a thicket, when the weather makes that necessary. Air, indeed, is the element in which we live, as much as water is the element in which fish live: And we not only live *in it*, but we live *by it*; nor can we live without it: For we take it in not only by our mouths and nostrils, so that we could  
not

\* See p. 124. of the same volume.

† Page 78. &c.

‡ Vol. III. p. 79.



not live a few minutes without it, but also by the pores of our skin, which are called *absorbing vessels* \*.

The first cover from the air, that men used, appears to have been what nature furnished them, such as *caves*; and it was in that way that the Cyclops, as Homer has described them, lived. When nature did not furnish such caves to them, they dug them out of rocks, of which a remarkable monument is at this day to be seen in an island of India, near to Bombay †; and as the progress of arts advanced, they came at last to make that covering from the weather, above ground, which we call a House.

But men, not satisfied with this cover from the weather, invented another, and a much closer one, which we call *clothes*. Before, however, I come to speak of them, I think it is proper to observe, that the care of our skin, which covers our bodies, is of the greatest importance in our whole animal economy; for our skin both *takes in* and *throws out* a great deal. By its absorbing vessels, it takes in the air, *in* and *by* which, as I have said, we live: And it also throws out a great deal by its *perspiring vessels* ‡, of which I shall say more very soon.

Clothes were not used by man before his fall, as our Scripture tells us §. The first clothes, he used, were of skins ||, which is the only clothing that such of the barbarous nations, as do not go naked, use at this day; and, indeed, without the arts of spinning and weaving, by which clothes are made of vegetables, men could only be clothed by what clothes the brute, that is by skins. But the vegetable clothing, which we use, is much closer and warmer than skins thrown about the body are. So that, if any covering by clothes be hurtful, the

\* Vol. V. p. 19.

† Vol. III. p. 83.

‡ Ibidem.

§ Genesis chap. iii. v. 7.

|| Ibid. v. 25

the covering by our clothes must be much more hurtful than the antient clothing by skins, especially if it consist of three or four coverings, one above another: For it must keep our bodies intirely from any communication with the air, so that we can take in no air by our skins, except by a small part of them, such as our faces and hands; and even these the delicate people among us cover not only by houses, but even when they go abroad by close vehicles in which they are carried, or by gloves that they wear upon their hands when they walk or ride.

We are, therefore, hindered, in this way, from taking in the air by our absorbing vessels. But the other thing I mentioned is still of worse consequence; I mean the hindering our skin from throwing out, by our perspiring vessels, a great deal of the filth of our body, more than we discharge either by stool or urine\*. Of this filth there is not so much thrown out when we are clothed as when we are naked; for by experiment it is made certain that we perspire more when we are naked and in the open air, than when we are clothed. And what is thrown out is kept about our body; so that a man, who is clothed, lives in the filth of his own body, and takes in again a considerable part of it, by which means there is a circulation of filth in his body†. If this be so, can there be any doubt, that of all the many inventions of man, for the destruction of his body, this is one of the worst: And as the mind and body are so intimately connected, I have no doubt that it must have likewise an effect upon the mind. I am persuaded, therefore, that the antient Gymnosophists, in India, philosophised better by being naked, than they would have done if they had been housed and clothed; and, I believe, better than many of the Greek philosophers, who were covered from the air, both by houses and clothes;—though they may have fed, as these Gymnosophists did, upon vegetables only.

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\* Vol. V. p. 19.

† Ibid. p. 19. and 20.

It may be thought, that, however hurtful this invention may be, it was of absolute necessity for enabling man to endure the cold of the weather. If this were so, it might be supposed that the wisdom and goodness of God had formed the chief animal of this earth so much inferior to other animals, that he could not live without the use of what I have shown to be necessarily hurtful to him, as tending to produce both weakness and disease and consequently to shorten his life. But that is not the case: For, I think, I have proved, in Vol. III. of this work\*, that man can live naked in climates much colder than that of Britain, particularly in the climate of New Holland, in the southern latitude of 44; and that, under the Emperor Severus, the people in the southern parts of Scotland, called *Mæatæ*, lived absolutely naked. The ancestors of the people of Britain, the Celts, who came from Gaul and peopled Britain, wore no clothes; and the marks of dignity among them they engraved upon their skins, till they began to wear clothes; and then they painted them upon their bucklers and standards. This fact we are told by an author who has written an excellent work upon the history of the Celts†. In Vol. IV. of this work‡, I have quoted an author of the name of Zimmerman, who has written a work, entitled *Zoographie Geographique*, where he gives an account of men being able to endure the greatest cold that art can produce, that is by the mixture of sal ammoniac and ice; for so great is the cold of Nova Zembla, and therefore, says he, bears cannot live there, nor any other animal except man and a white fox: And he tells us, that in Greenland the men have their bodies very slightly covered, their head and neck quite uncovered, and no fire in their huts. Sir Francis Drake saw naked savages in a boat at sea, a degree farther south than the Straits of Magellan; which is a climate very much colder than any country we have discovered in any northern latitude. I hold it, therefore, to be certain that man can bear as much cold as any animal

\* Page 29. and following.

† Pellutier, p. 159.

‡ Page 52.

mal on this earth. And as to *beat*, the same author, Zimmerman, tells us, in the passage above quoted from Vol. IV. of this work, that women can work in an oven heated to the degree of 275, by Fahrenheit's thermometer. — I think, therefore, it is certain that there is no animal of this earth, that can endure more cold and more heat than man; and, therefore, that he is fitted for inhabiting every country of this earth, for which he appears to be destined by God and Nature.

For these reasons I am convinced, that all the men of this earth were originally in the natural state, that is without clothing; and that, therefore, clothing is entirely an invention of art, and has, like many other inventions of art, impaired the health and shortened the lives of men. I am also convinced, that the savages, who at this day live in the primeval state and go naked, keep their healths very much better than we do; nor do we hear of any diseases among them, except such as are produced by the spirits that we give them. But though the primitive naked state may be proper for vagrant savages, it would not be at all proper for the civilised life, in which men live in the closest intercourse and communication with one another, and where, therefore, decency must be observed, particularly with respect to the sexes: For, as in civil society men and women do not copulate promiscuously, it would be altogether improper and indecent, if their parts of generation were exposed to view; and even the naked savages, though there be no marriages among them, conceal those parts from view with coverings of leaves, as our first parents did, or with some thing else.

Clothing, therefore, I hold to be coeval with civil society; and accordingly we do not hear of any such society of naked men, even in the earliest times. But the clothing needs not be, nor, I am per-

suaded, was it, in antient times, such a close covering as we wear, by which both the air is excluded from our bodies, and the filth we throw out by our skins kept about us; but it was another kind of covering, such as I have said the Greenlanders wear in their cold climate, or such as the inhabitants of Terra Del Fuego, a country still colder than Greenland, use, who have no other clothing than skins loosely tacked about them\*. And, as to *cold*, I say further, the more cold that a man accustoms himself to endure, the healthier and stronger he is: And men, who, from a life in the fields in which they slept in the open air, have passed to a life under a roof and in close and warm beds, are liable to diseases, of which I have given one example that fell under my own observation†; whereas people, who have made the most sudden transition from the close housed delicate life to the open air, have recovered of sickness. I was informed of a ship that sprung a leak, which obliged the crew, among whom there were a great many sick men, to take to the long boat, where, after having been several days exposed to wind and rain in a very tempestuous sea, they were taken up by a ship that they accidentally met with, and the sick men were by that time quite recovered: And it is a fact very well known in the army, that when it has occasion to march from a camp, which it has occupied for any time, the sick men in the hospital, who are carried along with the army in waggon, recover very much faster then they did in the hospital. I have given other examples of the same kind in Vol. III. of this work‡, sufficient to prove, that our life in the open air is so natural to us, that it will not only preserve our health, but recover it when lost: And if so, the Californians, who inhabit a very cold country in the north-west part of America, were very much in the right, when they could not be persuaded by the Jesuits to sleep with them in their huts, but chose rather to lie at the door of them§. Neither would they accept of clothes which were offered them by the

\* Vol. IV. p. 53. † Vol. III. p. 81. ‡ Ibid. p. 80. &c. § P. 80. and 81.



the Spaniards for nothing, though the cold of the country was so great, that some of the Spaniards are said to have died of it\*. And, as to the cold bath, there is an example of the effects of it, which are really wonderful upon the Carraibs, a people inhabiting the Carribee islands in the West Indies, called by the French the *Antilles*. Of these I have spoken in Vol. III. of this work†, where I have said that they are prodigious drunkards, getting drunk, men, women, and children, very frequently with a strong liquor which they have learned to make of an herb they call *Manniack*; and they are liable to many diseases, particularly the Great Pox, which is common among them in its highest degree of malignity, and is transmitted from the parents to the children, as they have no radical cure for it, but only palliatives; notwithstanding all which, we are told that they live very long, even to the age of 100 and upwards; and there is an author, one Mr Rochford, who, in his history of the Antilles islands, says, that the ordinary life of the Carraibs is 150 years‡.

That man is by nature fitted to endure the cold when he is naked, is evident from what we see every day of ourselves; and that is the face naked. Upon that subject there is a very good story told of Anacharsis the Scythian, who had a curiosity and love of learning, which made him come to Athens to converse with the philosophers there; where he lived as he did in his own country, that is naked. Being asked, by an Athenian, how he could bear so great a cold as then was at Athens, when it happened to be winter, he answered the question by asking another at the Athenian, Whether he felt any cold in his face? The Athenian answered, That he did not. Neither, says Anacharsis, do I feel any in my body; for *I am all face*. Indeed, I can see no reason why the fore part of our head should, by custom and habit, be made to endure the cold so easily, and not the back part of our head and our whole body: For we see every day boys in our streets going about with their necks and a good part of

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\* Vol. V. p. 13.

† P. 87. 88.

‡ P. 13. and 14. of Vol. V.



their breasts bare, without catching any cold; and I was told, by one of my countrymen who had practised physic in Russia for several years, that the Russians are accustomed to go about with their necks bare, as children do among us, and yet a fore throat is a disease not known in Russia. I am, therefore, convinced that our children though descended of parents, who, for so many generations, have been in the habit of wearing clothes, might nevertheless be brought up naked and continue so all their lives in very much better health than they do now \*.

There is one thing that should recommend the use of the cold bath to all our fine gentlemen and ladies, that, without the use of it, it is impossible they can be clean, living in the filth of their own body, but must stink, as the Ottaheite man, Omai, who came from a country where the inhabitants bathed twice a day, said, that all the people of England did†.

The Scythians were excellent foldiers, and conquered many countries; so that their going naked neither lessened the size and strength of their bodies, nor impaired their courage: For our minds and bodies are so intimately connected, that whatever is good for our bodies also adds to the strength and vigour of our minds.

But not only do we indulge ourselves in the warmth of houses and clothes, but we use a warmth still more unnatural; I mean the warmth of fire: For the warmth we enjoy, proceeding from houses and clothes, comes from our own bodies, and is only kept about us by houses and clothes; but the warmth of fire is an extrinsic heat, proceeding in Britain from a sulphureous mineral, that is *coal*, which is now almost the only fuel that is used by us, and which, at the same time that it gives us an unnatural heat, corrupts the air by its  
sulphureous

\* See note on p. 44. of Vol. V.      † Vol. V. of this work, p. 34.

fulphureous vapour, and, in a great town, produces such an atmosphere, that when we see it at a distance, we should think, if we were not accustomed to it, that no animal could breath in it.

But of *fire* I have said a great deal in Vol. III. of this work\* ; where I have observed that the constant and familiar use of fire by man, and his making it even a necessary of life, is a most extraordinary thing in the history of our species, when we consider that it is the terror of all other animals, and even of man when he first sees it, as I have made evident from the example of the Wild Girl whom I saw in France, to whom it was at first both an abhorrence and a terror †.

That the unnatural heat of fire, besides corrupting the air, must produce a great many diseases among men, I think is certain ; and, accordingly Horace has told us, that,

Post ignem aetherea domo  
Subductum, macies et nova febrium  
Cohors incubuit terris ———

And when to the unnatural warmth of fire we join the use of houses and clothes, which, besides the unnatural warmth that they likewise produce, keep from us the free use of the air, an element so necessary for our existence ;—and when to all this is added our unnatural diet, I say it again, that it is absolutely impossible, by the nature of things, that we should live so long, or continue so long in health, as by God and Nature we are destined to do, unless we could suppose that man has invented for himself a better life than God has destined he should live.

As, therefore, men live in so unnatural a way, eating the food of an animal of quite a different kind, I mean a carnivorous animal,  
and

\* Page 38. and following.

† Vol. IV. p. 33.

and not as that animal eats it, but prepared by fire, cooked, and dressed;—using also, by way of drink, fermented liquors, such as *wine and beer*, and the most unnatural drink that can be imagined, I mean *spirits*, which are so far from being the natural drink of an animal, that they are fuel for fire;—likewise covering himself from the air, in which and by which we live, and that not only by houses, but by the closest covering that can be imagined, that is, by clothes in the day time, and by sheets and blankets in which he is wrapped during the night;—I think it is impossible, by the nature of things, that he can live the time which God and Nature have destined he should live, and without disease, or that, after having lived that time, he should die the death of Nature. My surprise therefore is, that we live so long as we do, and that more of us are not years a-dying of long and painful diseases, and are not *9 years a-killing*, which Othello, in Shakespear, prays that *Iago* may be.

But it will be said, is then so short a life, and so long and painful a death, so absolutely necessary, that they cannot be prevented or alleviated by any thing we can do? And, I think, we may alleviate them, first by taking to the natural diet of vegetables, and then by living more in the air than we do; or, without making so great a change, by living as the antient Egyptians did, who ate flesh and drank wine, and lived in houses as we do, but lived, I am persuaded, much longer and much more free of disease, and died a much shorter and easier death. And this was by the constant use of the cold bath, four times in the twenty-four hours; and by physick, that they took regularly once a month, which they thought necessary to prevent the bad effects of their unnatural diet: Both which practices I can recommend to the reader from my own experience\*.—As to the cold bath, I think it so necessary for men who live, as we do,  
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\* See what I have said upon this subject in Vol. V. p. 20.—where I have shown that the Egyptian practice of the cold bath was much better than the warm bath used by the Greeks and Romans.

in the filth of our own bodies, kept about us by our clothes, that I hold it to be absolutely impossible that a man, who lives in that way, without cleansing himself by bathing, can live in health the time that God and Nature has destined he should live. And the cold bath has this advantage over the hot, that it not only cleanses, but braces and accustoms a man to bear the cold; for which purpose I would advise every man, who takes that bath, to walk naked for some time in his room, with the windows open, and to practice some exercise, such as I use, by swinging leads, and by that means to make some amends for the want of a practice, which, I am persuaded, contributed very much to the health and strength of the Greeks and Romans; I mean the practice of performing their exercises in the Palæstra or Campus Martius, naked. In Vol. III. of this work\* I have mentioned a gentleman, whom I knew in London, the late General Ogilthorpe, who every morning exercised himself naked in his room, after getting out of bed, the best part of an hour, and lived to the age of 100, perfectly entire in mind and body. I also anoint after bathing; and I never omit it any day, even when I do not bathe; and I anoint both in the morning when I rise and in the evening before I go to bed. This practice I also learned from the antients; for we hear of a man among the Romans, in the days of Augustus Caesar, who lived to be very old, above the age of ninety; and it was, as he thought, by the constant practice of anointing; which is so much in use at this day among the Indians of the East, that, it is said, our Seapoys could not serve us if they were not regularly anointed; and they are at great pains to work the oil into their skins, by what they call *shampooing*. And when it is in this way incorporated with the skin, it certainly makes it fitter for perspiration, and for taking in as well as for throwing out; and, therefore, I think it is very properly practised by the people of the Pelew Islands, who, though they wear no cloaths, yet not only bathe,

but

\* Page 41.

but anoint \*. In ſhort, the care of the ſkin is a principal part of what the Romans called the *cura corporis*.

If our diet, unnatural as it is, and of which we often take more than our natural appetite requires, were to be wrought off by regular exerciſe, though not ſo violent as what the Greeks uſed in their Palaſtras, or what the ſavage nations, ſuch as thoſe of North America, uſe in hunting or in long journeys on foot, it would not be ſo pernicious : But when it is accompanied with indolence and eaſe, and when neither the outſides of our bodies are kept clean by bathing, nor the inſide by phyſic, it is impoſſible, by the nature of things, that we can live long in good health ; and what, I think, is worſe than a ſhort life, we probably will die a long death.

There is one pleaſure of ſenſe that I have not mentioned, greater and more alluring than any other ſenſual pleaſure ; I mean the pleaſure of venery. It is, therefore, practiſed in three ſeveral ways ; *firſt*, in the natural way with women ; then in a moſt unnatural way with boys or young men ; and, *laſtly*, by men upon themſelves, without either women or other men ; and this laſt way is practiſed chiefly by ſchool-boys, and ſo muſt have a very bad effect upon their growth and ſtrength. Of the intemperate uſe of this pleaſure, even in the natural way, I have ſpoken at ſome length in Vol. III. of this work †, and have ſhown how much it waſtes the animal life ; where I have obſerved ‡, “ That the unnatural practice of it by “ boys at ſchool upon themſelves, which, as I have ſaid, is ſo pernicious to their growth and ſtrength, appears to be a vice peculiar to modern times.”

Before I conclude this chapter, I will add ſome obſervations upon one pleaſure of ſenſe that I have not yet mentioned, but which I think

\* See Vol. IV. p. 57.

† Page 178. and following.

‡ Ibid. p. 181.



think very well deserves to be noticed. It is the pleasure, which our sense of smelling affords us, the most innocent of all the pleasures of sense; for it is pure and unmixed with pain, which neither precedes it, accompanies it, nor is subsequent to it; and in it we do not hear of any excess, which is so frequent in other pleasures of sense. It is so far from being hurtful to health, that it is beneficial to it; for the perfumes, which are so agreeable to our smell, improve the air that we breathe. It was, therefore, very much used by the wisest of all nations, I mean the Egyptians, who chose, with great care and attention, the several odours with which they perfumed the air. Upon this subject Plutarch has said a good deal in his treatise *De Iside et Osiride*\*; where he observes, that the Egyptians gave the greatest attention to every thing that regarded health, as they thought that the habit and disposition of the mind was intimately connected with the habit of the body. And he has there quoted Aristotle, as saying that the odours of perfumed oils and flowers not only give great pleasure, but are also very beneficial to health: He adds, that the physicians, in order to prevent the bad effects of a pestilential air, recommended the burning of odorous woods, such as the cypress and juniper; and he mentions a physician in Athens, one Acron, who, in the time of a pestilence there, got great reputation by prescribing, for those who were ill of the plague, the burning such woods. Indeed, I think it is impossible not to believe, that, as odours are so mixed with air, they must have a great effect upon it of one kind or another. We are, therefore, not to wonder that perfumes were so much used by the Greeks and Romans. Among the Romans it was a piece of luxury, which was in constant use, and which was not hurtful to their health, like their other luxuries, but beneficial to it. There was, therefore, among them, no supper of any elegance, in which the company were not all anointed with perfumed oils, or *unguents*

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\* Tom. II. p. 383. of the Paris edition.



as they called them ; and it was thought as necessary for the entertainment of the guests as wine. And to the perfumes of oil they added flowers : Accordingly Horace, in recommending the enjoyment of life, while it lasts, to his friend Dellius, says to him,

Hue vina, et unguenta, et minium breves  
Flores amoenae ferre jube rosae :

CARMIN. Lib. 2. Ode 3.

Again, in his 7th Satire of the 2d Book, which contains a very humorous dialogue betwixt him and *Davus* his Slave, *Davus* tells him, that, notwithstanding all he says in praise of temperance, no sooner does Maecenas invite him to supper, but he immediately desires to be dressed, and, among other things, calls most impatiently for oil :

—————Jusserit ad se  
Maecenas ferum sub lumina prima venire  
Convivam ; ‘ Nemon’ oleum feret ocuis ? ecquis  
‘ Audit ?’ cum magno blateras clamore, furisque.

And, when a man made love to his mistress, he was *perfusus liquidis odoribus* \*. So that unguents and flowers were thought as necessary for the enjoyment of a pleasurable life as wine. Now I think it is surprising that in modern times, as we study ancient arts so much, we have never thought of imitating this antient piece of *elegance*, as I think it may be more properly called than of *luxury*.

## CHAP.

\* Horat. Carmin. Lib. 1. Od. 5.

## C H A P. XVII.

*Civil Society, notwithstanding the evils attending it, absolutely necessary for the improvement of our Intellect.—Those evils, however, may be remedied, by the Study of Arts, Sciences, and Philosophy.—Our indulgence in Sensual Pleasure thereby moderated; and our wrong sense of the Beautiful corrected.—The Intellectual Mind should govern in our Little World, in the same way that Supreme Intelligence governs in the Universe:—Evil Consequences of this not being the case both in Public and Private Life.—Great Advantage of the Improvement of our Intellect.—Most of that improvement we owe to the Egyptians:—They Invented Language, Agriculture, Metallurgy, Statuary, Architecture, and Music; and Propagated these Arts, by means of their Colonies, over a great part of the World.—The Miseries of Ennui, which prevails both among Civilized Men and Savages, to be prevented by the Study of Arts and Sciences.*

**I**N the preceding chapter I have been pretty full upon the vices and follies to which men are liable in civil society: But I think I have shown, that if civil society produced more vices and follies, it was of absolute necessity, in order to make man an intelligent animal, and not merely a better kind of brute, with the capacity only of intelligence. And not only does he acquire intelligence in civil society, but he improves it very much by the constant use of it; so constant, that he never chuses to do, or not do, any thing, without forming an opinion concerning it, which cannot be without the exercise of intelligence. But if thus, in the common affairs of life, we improve our intelligence by the constant use of it, much more do we cultivate and improve it by the invention and practice of arts, and by the study of sciences. In this chapter I am to show, that though civil society produces a great many evils, it also furnishes preventives or remedies

for those evils. These are the two things I have just now mentioned, arts and sciences, which, in this age, we are so lucky as to enjoy, without having invented them ; for sciences have been transmitted to us from very ancient times, by the means of that wonderful art of writing, which the Egyptians invented, and many arts in the same way have come down to us. The common and necessary arts of life, such as that of raising corn by agriculture, and in that way not only making bread, but also drink by fermentation, were, as I have shown elsewhere\*, invented in Egypt, and thence have come to us. And not only necessary arts have, in this way, been transmitted to us from ancient times, but we have been taught the practice of the fine arts by ancient monuments of that kind that are still preserved, and so have improved our sense of *the beautiful*, which, as I have said, is the foundation of our most valuable knowledge. In this volume I have shown how much we may improve our intelligence, and enrich our minds, by the sciences invented and cultivated by the Egyptians, Greeks, and Romans ; and also, that, even in modern times, we have invented several useful arts, and likewise improved our knowledge by discoveries that we have made on this earth.

By the diligent study of these arts and sciences, which have come down to us from antient times, or have been invented in modern, I think we must improve our intellectual faculty, and consequently correct those vices and follies which are produced in the civil life ; for they all proceed from ignorance, or the errors of our judgment. If we knew that eating, drinking, and coition, were intended by God and Nature for the purpose of the preservation of the individual and the continuation of the species, and that pleasure was annexed to these sensual enjoyments, that we might be more readily disposed to gratify them, we should be convinced that it was a gross error, and productive of very bad consequences, to mistake the *pleasure*,

\* Vol. IV. Book II. Chap. IV.

*sure*, which is annexed to those operations, for the *end* intended by them, and to mind nothing else but the pleasure attending them : And we should further know, that the pleasure, indulged in this unnatural way, must draw to very bad consequences with respect to health ; and that even the pleasure itself, indulged to such excess, is less than if it were enjoyed with moderation and in a natural way.

The improvement of our intellect, by the cultivation of arts and sciences, will also enable us to correct those errors which we are led into by mistaken notions of *the beautiful*, and which are of much greater consequence than the other source of misery in human life, that I have mentioned, I mean the indulgence of sensual pleasure : For as the sense of the Beautiful is essential to intellect, every man must have it in a greater or less degree : And if it be a wrong sense, it must produce the greatest mischief ; for it is then the source of strife and contention, and of the greatest disorders both in government and in private life, and particularly of ambition, which, as I have shown, has been the cause of such destruction of men and so much desolation of the earth. It is also the source of one evil among men, which, as that wise Scythian, I have mentioned \*, Anacharsis, observed, was peculiar to men, and very singular : For, says he, other animals are only afflicted by the evils which they suffer themselves, but man is afflicted by the good which other men enjoy ; that is, he is afflicted by the passion of envy, which, as Horace tells us, is so great a pain, that

Invidia Siculi non invenere tyranni  
Tormentum majus.———

Our intelligence, if it be such as it ought to be, will let us know that Beauty consists in such an order and arrangement of things, as  
makes

\* P. 211. See, concerning Anacharsis, *Æliani Varia Historia*, Lib. 7. Cap. 6.

makes a system, that is *one* of several things ; for beauty, as I have shown\*, is a perception, not of sense but of intellect, which does not perceive a single object, as our sense does, but several together ; and, in that way, it perceives the relation they have to one another. Beauty, therefore, like *truth* or *science*, does not consist of a single thing, but of *the many*, of which it forms *one*. This, I know, will be thought, by such of my readers as are not philosophers, to be an inconceivable paradox ; for they will say, that intellect undoubtedly perceives that a single animal is a man or a horse. But I ask How does it perceive that ? And, I say, it is by perceiving that the several qualities, which constitute a man or a horse, are united in that animal, and make *one of the many*. In short, it is the genus or species of the thing, which intellect perceives, and which consists of several things that, collected together, make the thing *one*, which is therefore perceived by the intellect : And it is only that union of the qualities existing in one object that makes it an object of intellect ; whereas our senses perceive objects just as the brute perceives them, that is altogether as they affect the senses, without any discrimination of the qualities.

Further, our intellect, if it be improved, as it ought to be, will inform us, that though there be such an order and arrangement of material things, as makes us perceive *one* in *many*, and so gives us the idea of beauty, yet, where there is such an arrangement in the qualities of mind, the beauty will be very much greater : We shall also learn, that there ought to be such an order in our minds ; and that all the subjects of which our little world is composed, that is our intellectual, our animal and vegetable minds, should be in such order as to make but one system, of which all the parts are perfectly consonant with one another ; which system should be our chief study. And it is a study that will be rewarded with the greatest pleasure, as well as profit, for it makes us *know ourselves*, which is not only the  
most

\* Page 195.



most certain of all knowledge, being founded upon consciousness, but the most comprehensive, leading us to the knowledge of many sciences, such as logic, morals, politics, and even theology; for, without the knowledge of our own intelligence, we could have no idea of Supreme intelligence. Upon this subject I have said a good deal in a preceeding part of this book\*; and I will only add here, that, as we are made after the image of God, and as therefore *intelligence* is the governing principle in our little world, as well as in the great, the goodness of God has been such, that he has furnished us materials in our own mind, by which we may very much improve our intelligence †.

From this study of ourselves, we may learn, not only that our intellectual mind governs in our little world, as well as Supreme Intelligence does in the great world, but that, in one respect, it governs in the same way; for it does not move our bodies by itself, any more than God moves the bodies in the great world, but employs an inferior minister to do that work, I mean our animal mind; which, therefore, is the immediate cause of all our motions, and of all the actions we perform. And this shows how necessary it is in our little world, that our animal mind should be in perfect subjection to our intelligence. If that be so, What must we think of those, who, instead of making their animal mind, and their whole body, subservient to their intellectual mind, employ their intelligence in devising means to gratify the appetites and desires of the animal life; so that, in those men, the animal life, which, by nature, is no more than an instrument, that the intellectual mind employs for any purpose it thinks proper, becomes the governing principle in our system. Such a government, so contrary to

\* Page 174.

† See what I have further said upon this subject, p. 108. and 109.



to the nature of things, must, of necessity, make any man miserable.

Thus I think I have shewn, that, by the study of our own minds, and of ancient arts and sciences, we may acquire knowledge sufficient to prevent or correct the vices and follies to which we are liable in civilized life. How much we owe to the goodness of God, who has furnished us, from our own minds, with the materials of so much knowledge, and of the greatest certainty, being known to us, by the most certain of all knowledge, Consciousness, I have elsewhere shewn \*. And as to ancient arts and sciences, we owe them likewise to the wisdom and goodness of God, who provided a nation, which invented and cultivated these arts and sciences, and propagated the use of them to a great part of the nations of the earth. The nation I mean was the Egyptian, which not only invented and cultivated these arts and sciences, but carried the use of them to the most distant nations, even to India. And no nation could have done this except the Egyptian, which had a form of government the best calculated for the invention and cultivation of arts and sciences, by which the best race of men in the country were set apart for that purpose and for the service of religion, and had a third part of the lands of the country appropriated to them and to their families: So that learning among them was hereditary, as our lands in Europe are, and consequently must have increased from generation to generation. It is not, therefore, to be wondered, that in a country where learning was so much the public care, it should have been so much cultivated, and increased so much.

They not only invented the art of language, the parent art of all other arts and sciences, but they invented the necessary arts of life, such as agriculture and metallurgy. And as to the fine arts, they  
invented

\* Page 109.

invented statuary and architecture, (of which last mentioned art there are some wonderful monuments still remaining,) and one of the finest of the fine arts, I mean music, which to form into an art I hold to be a matter of much difficulty: But the first practice of it without art, was not difficult; and therefore I am persuaded that it was practised in that way before language was invented, being much more natural to man than articulation. For Nature has furnished to us the materials of which music is composed; that is, sounds, differing as to acuteness and gravity in our animal cries: Whereas the materials of language, that is, *articulate sounds*, are of our own creation, being formed by the position and action of our organs of speech, of which the principal are hidden in our mouths; by which positions and actions our voice, that naturally goes on in a continued flow like the voices of other animals, is broken and divided into articulate sounds. This was an art so great, that, as I have said elsewhere, I think it could not have been invented without supernatural assistance. We are, therefore, not to wonder that music was practised by men before they had the use of language: For not only they had, as I have said, from Nature the materials of which they formed music, but they learned the practice of it by imitation of the birds; which was the first music among men. This Lucretius has told us, where he says,

At liquidas avium voces imitauer ore,  
Ante fuit multo, quam levia carmina cantu  
Concelebrare homines possint, aureisque juvare:

And I was told by the wild girl that I saw in France, whom I have mentioned more than once in this work \*, that the music of her country was altogether of that kind; and that she could, at the time when I conversed with her, imitate the song of any bird. And as man is a most imitative animal, and particularly, as Aristotle has observed, by his voice, it was most natural that the first art he practised

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\* See, concerning her, Appendix to Vol. IV.

should be by imitation, especially if we consider that the sense of the beautiful is congenial to man, as well as to every other intelligent being : And as the songs of birds are beautiful, as well as pleasant, there was nothing more natural than that the imitation of them should be among the first things that he practised of the imitative kind. And this origin of the art will account for the music of the barbarous nations, such as the Hurons in North America and the people of Chili in South America, rising no higher than *a fourth*, the greatest height to which the music of the birds rises.

This was the first beginning of the practice of music ; from which I think it appears, that language was a much greater invention than music : First, as we have created the materials of which language is composed, that is, articulate sounds ; whereas Nature has furnished us the materials of music : And, 2dly, because we formed a music in imitation of birds ; whereas we could not form language by imitation of any other animal. But though the invention of language, and the first practice of it, was certainly much more difficult than the invention and first practice of music, the formation of music into an art was certainly a great work of genius, and may, I think, be compared to the formation of language into an art from the rude state in which it was when first practised by men. But though the invention of language was very much more difficult than that of music, and which makes language the greatest art among men as well as the most useful, yet the formation of music, after it was invented and practised in imitation of the birds, into an art, was, as I have said, a very difficult work, and such as could not have been performed except by men who had made considerable progress in other arts and sciences. In order to make an art of music, as well as to make an art of any other subject, it is necessary to know what the subject is, and to analyze it into the different parts of  
which

which it is compos'd ; for analysis is the foundation of all arts and sciences.

The subject of music is the tones of the human voice or of any musical instrument, differing from one another in acuteness and gravity : These are called tones and semitones in our scale of music, which make the different notes to the number of *seven*, rising above one another in acuteness ; and, with the addition of an eighth note, which is called the Octave, the scale of music, or the Gamut as we call it, is compleated. And here the progress of the tones of music ends ; for if we have a mind to form an acuter sound, we make a second octave, of which the first octave is the fundamental ; and so on from octave to octave, as far as the human voice or any instrument can go. But upon this subject I have spoken at some length in the IV. vol. of this work, (p. 258. and following), where I have shown that the Greeks, by dividing the *tone* not only into halves or semitones, but into the third and fourth parts of tones, made two other kinds of music : One of these they called the *Chromatic*, by which the note was divided into three parts ; and the other they called the *Enharmonic*, by which the note was divided into four parts : Whereas by the *Diatonic* scale, which is the music we use, and which was the common music in Greece, the tone is only divided into halves or semitones. In the same passage I have also mentioned the great antiquity of music in Egypt, and shown that the Egyptians employed it for the two best purposes, devotion and the education of youth. (Ibid. p. 257. and 258.)

And thus I have explained how music is analyzed into its elemental sounds, and how it rises from the lowest to the highest notes.

And here we are come to what is the greatest and most wonderful part of the art of music, and that is, the applying of numbers to

the tones of the human voice or of any musical instrument ; and not only simple numbers, but numbers in geometrical ratio to one another, that is, containing or being contained in one another : For all the notes have that ratio to one another ; and if we do not perceive the ratio, which a musical note, that we hear, has to another note, we only hear a sound, but do not perceive that it is a musical note.

Thus it appears that music consists of certain sounds called Notes, differing from one another in acuteness or gravity ; for it is the difference in that respect, which makes, as I have said, the subject of music ; so that all the notes have certain ratios of acuteness or gravity to one another : And we are now to inquire what these ratios are, and how they are connected with one another.

But before we proceed to that, we are to inquire what it is that makes acuteness or gravity in musical sounds. And I say it is the motion of the air, produced by the vibratory motion of any body ; and the greater number of vibrations there is in the same time, the more acute is the sound ; and the fewer the vibrations, the more grave. This is best illustrated by a string, of which a greater number of vibrations produces a more acute sound than a lesser number does in the same time ; the consequence of which is, that a shorter string, when by impulse made to vibrate, produces more vibrations in the same time than a longer string.

And here we must distinguish betwixt the loudness of the sound, and the acuteness or the gravity of it : If the string be impelled by a great force, and consequently make great vibrations, the sound will be louder, but not more acute, unless the number of vibrations in the same time be increased. We must also distinguish betwixt the length of the note, that is the duration of the sound, and its acuteness

acuteness or gravity, which also differs from the quickness or slowness of the sound. These make what the antients called the *rhythm* of their music, and what we call the *time*, but are quite different from the acuteness or gravity of the sound.

Having thus shown what acuteness or gravity in musical sounds is, and how all the notes of music differ from one another as to acuteness and gravity, and have to one another certain ratios of that kind, we are now to consider what these ratios are, and how they are connected with one another. And this instruction Pythagoras gave his countrymen by a single string, or *monochord* as he called it, which he divided into certain parts. The first and most natural division of every thing is into two parts; and in that way Pythagoras made the first division of the string. By that division he gave his countrymen the idea of the Octave; for as the greater or less acuteness of the note depends, as I have said, upon the length or shortness of the string, the note produced by the half of the string, is twice as acute as the note produced by the whole string; and this is the ratio of the *octave* to its *fundamental*. If a greater division of the string be taken than a half, suppose *two thirds*, then the note is what is called a *fifth*, being in the ratio, to the note produced by the whole string, of *two to three*; but if *three fourths* of the string be taken, then the ratio of that note to the note sounded by the whole string, is as *three to four*, and the note is called a *fourth*. And by dividing, in this way, the string into parts, greater and lesser, all the several notes, from the *fundamental tone*, with which the diatonic scale begins, up to the *octave*, with which it concludes, are performed.

From what is said, it is evident that the Greeks had no science of music, till Pythagoras brought to them, from Egypt, the octave, which sets bounds to music, and consequently makes a science



ſcience of it ; and from the ſeveral diviſions of the ſtring was formed the *gamut* or *ſcale* of muſic : So that the whole ſyſtem of this fine art is comprehended in a ſingle ſtring and its ſeveral diviſions ; which ſhows us, that from the meaneſt things, properly conſidered, the greateſt conſequences may be drawn and the fineſt arts produced. Before Pythagoras, the Greek muſic roſe no higher than the muſic of the Hurons, that is to a *fourth*, which was the muſic of their *tetrachord* or *four-ſtringed* lyre. It is true that before Pythagoras gave them the octave they had invented a *ſeven-ſtringed* lyre. But that only doubled the *fourth* of their four-ſtringed lyre, by making the fourth ſtring of their ſeven-ſtringed lyre, which concluded the firſt fourth upon that lyre, the fundamental of another fourth, which was concluded by the laſt ſtring of the ſeven-ſtringed lyre. But this, as I have ſaid, only gave them an additional *fourth*, but no *octave*.

And here it may be obſerved, as a peculiarity of the art of muſic, that none of the tones, of which it is compoſed, have an exiſtence by themſelves, as tones of muſic, but each of them exiſts by relation to ſome other tone. This is to be explained by the nature of the tones, which are all acute or grave. Now no tone is by itſelf acute, but only in reference to another tone, which is leſs acute : For every acute tone muſt be more acute than another tone ; as otherwiſe it is impoſſible that it can be ſaid to be acute. And, with reſpect to grave tones, it is impoſſible to conceive any, but in reference to acute tones ; for if there were no acute tones, there could be no grave tones : And the grave tones muſt differ from one another in the degree of gravity. Now every tone, that is acuter than another, muſt contain in it the tone leſs acute ; and a graver tone muſt contain in it a tone leſs grave : And this accounts for all the muſical tones being geometrical ratios, that is, two numbers, of which the one contains the other.

Thus

Thus I think I have explained what may, at first sight, appear very surprising, that Numbers should be applied to the tones of the human voice and of instruments of music. And at the same time I have shown, I hope to the reader's satisfaction, what must, at first sight, appear likewise very surprising, that a musical note cannot exist by itself, but only in reference to other notes; so that all notes are ratios of different kinds. Now to apply numbers, and such numbers as I have mentioned, to the tones of the human voice or of any musical instrument, must appear to every man a most wonderful art; and it was an art which was unknown to the Greeks till Pythagoras brought from Egypt the knowledge of the octave, which is the foundation of the art of music. I think I have likewise given the reader the philosophy of this art, and shown him the principles upon which it is founded, and by which it is formed into an art.

I will only further add upon this subject, that the two best kinds of the antient music, the chromatic and the enharmonic, must have been much finer music than any that we have; for the materials, which formed these two kinds of music, were more abundant and more various than the materials of our music, which consists only of tones and semitones and different compositions of these: Whereas the two kinds of antient music I have mentioned were composed not only of tones and semitones, but of the third and fourth parts of tones: So that the ear would not be fatigued by the frequent returns of the same notes, and sentiments and passions would be better expressed by such a variety in their music. But what, I am persuaded, distinguished their music more than any thing else, was the rhythm of it; which they studied so much, that it was a common saying among the Greeks, that *rhythm was every thing in music* \*: And their writers upon music say, that it is the rhythm, which gives force and expression to music; and that without rhythm the

\* Παι παρὰ τοῖς Μουσικοῖς ὁ ρυθμός.

the mere melody or composition of notes is a thing lifeless and inanimate. And indeed a man, though not learned in music, if he attend to the tune he hears, will find himself much more moved by the *rhythm* or the *time*, as we call it, than by the notes, though composed and put together with the greatest skill. So that what we hear of the great effects of the antient music upon the sentiments and passions of men, was chiefly owing to the rhythm of it\*.

Another advantage, which the antient Greeks had over our music, was that it was always accompanied with poetry: For the Greeks never separated those two sister arts. Nor was such an entertainment known among them, as our Concerts, in which there is nothing but music, without poetry or words conveying sense and sentiments: And it was poetry of a kind much more suitable to music than any poetry we have; for it had both melody and rhythm.

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\* If the reader would desire to know more of rhythm, he may read a chapter which I have written upon the subject in vol. II. of the *Origin and Progress of Language*, p. 301. where I have explained, at considerable length, all the several kinds of rhythm, and have shewn the difference betwixt the rhythm of our verse, and that of the antient Greek and Latin verse; and among other rhythms I have observed that which is produced by the intervals betwixt the sounds, p. 305. and 306. To what I have there observed I would add here, that the rhythm of our verse is truly of that kind: For it is not a rhythm of long or short syllables, like the rhythm of Greek or Latin verse, nor is it a rhythm at all of sounds, but of the intervals betwixt sounds, that is, of the intervals betwixt our accented syllables, as we call them, and our unaccented. And this is different in different kinds of verse; for there is sometimes one unaccented syllable betwixt the accented, and sometimes two. So that the rhythm of our verse is truly the rhythm of a drum, in which there is no difference of length, or of acuteness or gravity in the strokes, but only a difference of length betwixt them, and likewise of loudness. And in this respect too the rhythm of our verse is perfectly similar to the rhythm of a drum: For it is, by raising our voice more upon one syllable than another, and so making that syllable louder, that the syllables are marked, the intervals betwixt which, compared together, make, as I have said, the intervals of our verse.

The reader may think, that, in a metaphysical work of this kind, I have said more upon the art of music than was necessary or proper: But, as I hold that music must have been practised even before language, I think it was the first step that man made in his progress from a quadruped, or a *mutum et turpe pecus*, such as Horace says man was in his natural state, to an animal that came at last to excel in so many arts and sciences, and to be possessed of such intelligence as to be worthy of being the governing animal here on earth. The beginning of such a progress, the most wonderful progress of any animal we know, and I think the most wonderful thing on this earth, deserves very well the attention of the philosopher, and indeed of any man who desires to know the history of his own species.

But not only did the Egyptians invent the necessary arts of life, and those fine arts I have mentioned, particularly music, but they invented also sciences; of one of which, I mean geometry, I have spoken in this volume\*. But from the learning to be found at this day among the Bramins of India, where are preserved the language and the sciences, as well as the polity, of Egypt, we know that many other sciences were invented by the Egyptians; and particularly logic, by which we are taught to know the operations of our own intellect, and what science truly is: For the doctrine of the syllogism is perfectly well understood and practised by the Bramins; and Sir William Jones has told us, that they have several philosophical schools, in which are taught all the metaphysics of the Academy, of the Stoa, and of the Lycaenum; and as to arts he says, that they have many works upon grammar, logic, rhetoric, and music†. And there is a Jesuit, Father Pons, a missionary in India, who says, that besides other parts of philosophy, they have a logic and the doctrine of the syllogism as perfect as is to be found in Aristotle: And he adds, that they have

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\* P. 177.

† See Vol. IV. of the Work, p. 312.

as many subtle disputes about the different kinds of syllogism, as we had in Europe 200 years ago \*. But besides the arts and sciences that I have mentioned, the Egyptians made great progress in philosophy, and even in the highest part of philosophy, that is, theology; for it is certain that they knew the doctrine of the Trinity, which Plato learned in Egypt, and also his doctrine of Ideas. Now philosophy is *the science of sciences*: For it contains the principles of all sciences; and however learned a man may be in particular sciences, if he be not a philosopher, he cannot know the first principles of any science. This I have elsewhere shown to be the case of two sciences; I mean geometry and arithmetic, which are very accurately treated by Euclid, but of which, not being a philosopher, he did not understand the principles, and did not even know what the subject of them was, viz. that *quantity* was the subject of both; *quantity continuous of geometry*, and *quantity discrete of arithmetic*: Nor did he know what the first principle of each of them was; I mean the *point* in geometry, and the *monad* in number †. And I think I have shown that Sir Isaac Newton, though a great astronomer, yet, not being a philosopher, did not know that great principle not only of natural philosophy, but of theology, that mind is the author of all motions in the universe, and consequently of the motion of the heavenly bodies.

This may suffice as to the invention of arts and sciences in Egypt. With respect to the propagation of them to other countries, the Egyptians had the finest climate and soil, and a river, which once a year overflowed that soil, and renewed it annually by covering it with the best earth, I believe, in the world: I mean the earth of Ethiopia. The productions, therefore, of this land and river, joined with the best polity that ever was, made them multiply so fast, that it was necessary for them to send colonies to

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\* Preface to Vol. III. of this work, p. 59.

† P. 28. of this Vol.



very many different countries ; for which purpose their country was very well situated, adjoining to two seas, the Red Sea and the Mediterranean, which gave them a communication with every country of the earth \*. All these advantages that I have mentioned were such as no other country enjoyed : And therefore it is not to be wondered that Egypt was destined by God and Nature to be the native country of all arts and sciences, even of that art, which is the parent of all other arts and sciences, I mean language ; and also of that art by which arts and sciences have come down to us from the remotest antiquity, and have been spread so much over the earth, I mean the writing art.

But I will say no more here upon this subject, though I think it a most important part of the history of man, having spoken so much of it in other parts of my writings.

When to this knowledge, that we acquire by the study of ourselves, we add, what I have said is to be learned from antient books, I think we may be able, if not to prevent, at least to correct and amend all the evils of this life, proceeding from the two sources I have mentioned §.

There is one evil not hitherto mentioned, which the study I recommend will certainly cure. The evil I mean, is that fore disease which the French call *Ennui*. Of this I have spoken a good deal in other passages of my works, particularly in Vol. V. of this work †, and in Vol. III. of the Origin and Progress of Language ‡: But, I think, it is a thing of so much consequence, that I will say here a good deal more upon the subject ; for I hold it to be the source of a great part of the vices and follies of men, and, con-

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sequently,

\* See what I have said on the subject of the transmission of arts and sciences from Egypt to other countries, in Vol. IV. Book III. Chap. I. &c.

† Pages 92. and 101.    ‡ Page 450.    § Pages 223. and 224. of this Vol.



sequently, of their misery. It is the abuse of what should be one of the greatest advantages we enjoy in civil society, that is leisure, for which all men pray, as Horace tells us<sup>\*</sup>; but, not being rightly used, it is the source of the greatest misery. As the great and rich have more leisure than other men, and commonly do not employ it well, they are, therefore, more miserable than other men; more miserable than any of those that work and labour for them. It was, therefore, not without reason that Madame Maintenon, who was the Mistress of Lewis the 14th of France, and, consequently, lived very much at Court, called the disease, *ce miserable Ennui qui devore les grand*. It makes men take to any vice or folly that occurs to them; but when they are satiated with vice and folly, then this *miserable ennui* recurs, and makes them more miserable than they were before, as they find that their vices and follies cannot appease this *foul fiend*. It is a disease not only among the rich and great but even among the vulgar, nor indeed is there any disease more common; for men do thousands of things for no better reason than that they know not what else to do. For that reason they eat and drink, go to bed and lye in bed; and, when they get up, employ themselves in the most frivolous amusements. But if a man is possessed of a moderate fortune, and can employ his leisure in the improvement of his mind by the cultivation of arts and sciences, and if to that he add religion, of which I shall say more in the next chapter, he may be as happy as he can be in this life.

Our time is the most valuable thing we possess, as upon the right use of it must depend our happiness both in this life and in the life to come; yet by many people it is considered as a great load upon them,

<sup>\*</sup> Otium Divos rogat in patenti

Prensus Ægeao, &c. ——— Lib. II. Ode 16.

And he says elsewhere, that he would not exchange the free and undisturbed possession of his time, for the wealth of Arabia:

—————nec

Otia divitiis Arabum liberrima muto. Lib. I. Epist. 7.

See Vol. V. of this work, p. 90.

them, and as *an enemy* : And hence comes the common expression of *killing time* ; which is done by the most frivolous amusements. One of these is, I think, very extraordinary, and yet none more common ; and that is, the use of tobacco in *smoking*, *snuffing*, and even *chewing*. This weed is known to be so very unwholesome, that, when taken into the stomach or even when applied to the outside of it, it is a powerful emetic ; and I heard a famous physician, a countryman of mine, the late Sir John Pringle, say, he believed that it had done a great deal of mischief : Yet it is surprising how many people use it, and in that way, particularly in smoking, employ a great deal of their leisure ; and habit has made it to many men almost a necessary of life. It is, however, naturally, and at first, unpleasant to every man ; for, though I hold that the sense of smell affords a great deal of pleasure, as I have elsewhere said\*, yet the smell of tobacco is, to those not accustomed to it, very disagreeable ; and, I think, it is a stink, when compared with the smell of roses, which I enjoy while I write this. And I am persuaded that Sir John Pringle was in the right, when he said that it does a great deal of mischief ; for the frequent and constant use of a thing, naturally so unpleasant, must, I think, necessarily have a bad effect upon the health.

Ennui is a disease not only well known among the civilized nations of Europe, but even among savages, particularly those of North America, who, when they have done with hunting or fishing, or warlike occupations, spend their leisure in lolling upon the ground, or in their wigwams, or in picking hairs out of their beards, but chiefly in smoking tobacco, in which way only they use it, not in snuffing or chewing as we do : So that the use of this weed, as I have called it, appears to be universal among men. In Europe there is no herb so much used, except corn : But among the Indians of North America, it is, I believe, more used than even corn, as they live chiefly upon hunting and fishing. From what has been  
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\* P. 216.

said, it appears that this disease of *ennui* is universal among men, and therefore must proceed from some cause that is congenial or essential to the species: And the question is, what that cause is. One thing is evident, that the cause must be in the mind; for it is a disease, not of the body, but of the mind. The reader, therefore, must attend to the distinction which I have made in other parts of this work betwixt mind and body. Mind, I have said, is the only active being in this earth or in the universe; and body is only passive, that is, a subject upon which mind acts; and it is altogether inactive, the *vis inertiae*, as it is called, being essential to it. Mind I have divided into two specieses; that which thinks and reasons, and that which moves body and produces all those motions by which the business of nature is carried on. I say, therefore, that as body by its nature is passive, so mind is by its nature active: Nor can we conceive mind to exist without acting; whereas we can conceive body perfectly at rest, if it be not moved internally by mind or externally by the impulse of other bodies. In our little world there are three minds, the animal, vegetable, and intellectual. The animal carries on all those operations in our body, which are necessary for its economy and preservation, by moving the fluids that are in it, and performing the other motions which are necessary to enable man to answer all the purposes for which he is destined in this life: The vegetable mind concocts and digests our victuals, and in that way nourishes us and makes us grow: Our intellectual mind directs, and as it were superintends the operations of the other two minds, and sees that they are properly carried on, and, where there is any thing wrong in those operations, corrects and amends it. And not only does it in this way direct the operations of our other two minds, but it conducts other operations in nature, such as are necessary for the support of our animal life; by which I mean the necessary arts of life, as agriculture, metallurgy, and building, arts too of convenience, ease, and pleasure: It conducts also the motions of bodies by which the fine arts are produced; and in short there is no motion

tion of bodies by which any art, liberal or mechanical, is carried on, that is not directed and conducted by our intellectual mind. And this mind not only conducts those arts and practices them after they are invented, but also invents them. So that to the intellectual mind we owe the invention and practice of all arts, liberal, mechanical, and necessary.

But there is one difference to be observed in the operation of the three several minds I have mentioned; that the operations of some of them are produced by our will. This is the case of all the operations of our intellectual mind, which cannot be without our Willing them. The same is the case of the motions of our limbs, which are produced by our animal mind: Whereas the motions of our vegetable mind go on without any act of our will. And the same is the case of our animal mind, when it conducts the fluids in our bodies, and in that way carries on the economy of our animal life. But all the three agree in this, that *acting* is essential to their nature; nor indeed can we have any idea of mind without considering *Acting* as essential to its nature. Now in the state of *ennui* our intellectual mind is altogether inactive; for it is not employed in regulating the economy of our animal and vegetable lives, nor in conducting the motions of bodies in any art liberal or mechanical; neither is it employed in thinking or reasoning upon any subject: So that it may be considered as in a state of non-existence. Now from what I have said it is evident that this is a most unnatural state, and very different from the state of our other two minds, which are constantly employed in their several functions; whilst our nobler mind is not employed as it should be in making what progress it can in this life, towards repairing our loss by the fall, and so preparing us for a better state in the life to come, nor even in the common business of this life, but is altogether idle and unemployed. A man living in such a state must necessarily be a burthen upon himself. It is, therefore, not to be wondered that,

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to get out of such a state, he takes to drinking, smoaking, snuffing, playing at cards and dice, or to what I hold to be a better amusement than any of these, as it is some exercise to the body though very little to the mind; I mean that which Horace mentions, *riding on a long stick* \*. And I think it is well if his pleasures, which give him some relief from this miserable disease, are only childish and foolish, but not vitious.

But the best way of employing his time is in arts and sciences, and particularly in that most valuable of all sciences, and which may be considered as the foundation of every other science, the knowledge of his own nature, and of his intellectual mind itself and its operations, from which are derived logic, morals, metaphysics, and theology †. If he find himself unfit for studies of this kind, then he should say with Virgil,

Sin, has ne possim naturae accedere partes,  
Frigidus obstitit circum praeordia sanguis;  
Rura mihi, et rigui placeant in vallibus amnes,  
Flumina amem sylvasque inglorius. —

GEORGIC. Lib. II. v. 483.

Let him therefore take to the country, if he have an estate or farm there, where he will find an occupation which is not at all *inglorious*, but, on the contrary, I think, both honourable and profitable: I mean agriculture, by which he will not only very much improve the farm he cultivates, but, if he give suitable encouragement to his tenants to follow his example, his whole estate: And by his example and that of his tenants, the proprietors of other estates in his neighbourhood and their tenants, may also be excited and taught to improve their lands. It made a great part of the glory of the Romans, as I have

\* — Equitare in arundine longa. Sat. Lib. II. 3.

† See, upon this subject, what I have said in this Vol. p. 222, 223, and other passages there referred to.



have elfewhere obferved, (Vol. V. p. 30. and 31.) that they excelled not only in government, in the early ages of their ftate, and in arms, but in agriculture, by which they were diftinguifhed from all thofe famous ftates of Greece, of which we hear fo much : And there is a famous faying recorded of one of their great men, old Cato the Cenfor, “ that agriculture was the next thing to philofophy \*.” I would therefore earneftly recommend it to every gen-

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tleman,

\* Cato’s words were, *Agricultura eft proxima fapientiae* : By *fapientia* here we are not to underftand what is commonly called *wifdom*, but *philofophy*, which is no doubt very much connected with *wifdom* ; and it fignifies what is expreffed by the Greek word *σοφία*, which was the name for philofophy, before Pythagoras gave it the moft name of *φιλοσοφία*. In this fenfe Horace uſes the word *fapere*, where he ſays,

Scribendi recte *fapere* eſt et principium et fons ;

De Arte Poet. v. 309.

Where by *fapere* we are not to underftand *having ſenſe*, or being a *ſenſible man*, in which ſignification I believe it is underſtood by moſt of the readers of Horace, but *to be learned in philoſophy* ; which is evident from the following line,

Rem tibi *Socraticae* poterunt offendere *chartae*.

And indeed philoſophy contains the principles not only of good writing, but of all arts and ſciences, even of the firſt art we are taught, Grammar : For I deny that a man can be a compleat grammarian without being a philoſopher. Horace uſes the word in the ſame ſenſe in another paſſage, where he ſays,

Nimirum *fapere* eſt abjectis utile nugis. Lib. II. Epift. II. v. 141.

Alſo

—————*Sopientia* prima

Stultitia caruiſſe —————

Lib. I. Epift. I. v. 41.

And in the beginning of the Poem called *Ciris*, aſcribed to Virgil, we have both *ſophia* and *fapientia* uſed for philoſophy.

It is ſingular in the hiſtory of this old Cato, that in his younger days he was a great enemy to the Greek learning and philoſophy, which, he ſaid, if they ſhould introduce  
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tleman, who has not a genius for learning or philosophy, or who has not an education proper to qualify him for that study, to apply to agriculture. He need not work with his own hands, as the great men of antient Rome did, such as the Dictator Cincinnatus, (though his time would not be ill employed in that way, as nothing would contribute more to his health; and even Horace tells us, that when he retired to his Sabine farm, he wrought, as I have elsewhere observed, with his own hands\*, though his neighbours laughed at him, *glebas et fasa moventem*), but he may content himself with giving directions, and superintending the practice of it. I have elsewhere given an example of a gentleman, who employed his leisure in that way, and thereby not only very much improved his own fortune, but set an example to the whole country where he lived, which has been followed with great success†.

An idle life is, therefore, a most unnatural life, being directly contrary to the purpose for which God has placed us in this world. It is, therefore, no wonder that it should be productive of so much evil. But, if we employ our leisure in the study of those arts and sciences, which have come down to us from antient times, and of those which have been discovered by the moderns, (of both which I have given some account), we shall improve our minds, and prepare ourselves  
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into Rome, they would ruin every thing. But in his old age he was quite reconciled to it, and quoted Homer, upon some occasions, in his speeches to the senate or people; and particularly he became an admirer of their philosophy. He was always a great farmer, and practised it very much, both when he was young and old: And there is a saying of his recorded, upon the subject of farming, that the first precept of it was *bene arare*; the second, *bene stercoreare*. But after he became a philosopher, he used the expression above quoted, *that agriculture was only next to philosophy*; and which I hold to be a very true saying, for (as I have said, p. 240.) if a man cannot philosophise, either through want of genius or of education, the next best thing he can do is, to apply himself to that most useful art, agriculture, and of all arts the most beneficial to health.

\* Vol. V. p. 94.

† Ibid. p. 309.

for the enjoyment of a better life in a future state. And I say, that even in this life a man of a moderate fortune, wherewith he can furnish himself not only with all the necessities of life, but with all the eases, conveniences, and even pleasures which a rational man should desire, he may be as happy in this life as he can be, if he be not afflicted by public calamities befalling the state of which he is a member, by domestic losses of wife or children, or by the death of friends whom he loved and esteemed. For these losses there is no other comfort but that which I shall mention in the next chapter. But if he is disturbed by none of these misfortunes, he may live a life like that of a departed spirit, disencumbered of his body and all the cares attending it, and enjoying the pure pleasures of intellect; that is, the pleasures which religion and philosophy afford.

But suppose a man not capable of enjoying these pleasures of the mind, I say that bodily labour will employ the mind so much, in directing it and carrying it on, that a man, who labours in that way, will not be liable to this disease of *ennui*, at least while he continues to labour; and, accordingly, we see men carrying on labours, that appear to be very painful, with great chearfulness. But suppose him eased of such labour, and having nothing else to do, I say the wealth of both Indies could not make him happy:—So necessary is occupation for the happiness of man.

## C H A P. XVIII.

*Of Religion and its comforts.—The greatest of these a prospect of happiness in a future state.—The antient Philosophers not agreed in this matter,—some holding the immortality of the intellectual mind, others denying it—even Plato’s arguments not conclusive:—Its immortality inferred from its nature and operations—also from the nature of things.—The author’s opinion with respect to our other two minds, the animal and vegetable. The belief of a future state prevalent in all nations, barbarous and civilized;—absurdity of doubting it, independent of the Christian revelation.—By that revelation the defects of antient philosophy supplied.—The Christian Religion, not only theological, but philosophical:—Of the consolations to be derived from it both by young and old.—The pleasures of a future state purely intellectual.—Reasons for doubting the eternity of the punishment of the wicked.—Every man as happy as his nature will admit, all evil being of his own creation.—The remedy for evil is the improvement of our intellect in arts, sciences, and religion.—The providence of God not only general but special.—Tutelary geniuses not only of nations, but of families and particular persons.—The system in man evinces a system in the universe.—His variety and progress most wonderful.—Recapitulation of his inventions and discoveries in arts and sciences.—Of the pleasure derived from the contemplation of the Beautiful;—this the foundation of virtue.—Agreement on this subject betwixt the doctrines of Aristotle, Pythagoras, and St Paul.—Beauty the principle also of religion.*

**M**EN in civil society are liable to so many calamities, public, private, and domestic, and are so much affected by diseases and weaknesses, both of mind and body, and also by the vices and  
follies

follies of other men, that no learning or philosophy can make such men happy to any great degree, without the prospect of greater happiness in a life to come. But before we come to speak of the happiness which we may enjoy in a future life, it must be first proved that we are to live after death, and not to perish with our bodies.

The Greek philosophers, as I have said elsewhere, maintained the immortality of our minds; but it appears, from a Dialogue of Plato, upon the subject of Mind, entitled *Μενων η περι ψυχης*, that the learned among them were not agreed upon the point; and that many of them believed that our minds perish with our bodies: And, indeed, if there were no better arguments to be given for that immortality, than those urged in that very long dialogue, I should have a very great doubt in the matter. But, from the arguments I have used in the preceding part of this volume\*, joined with what I shall here add, I hope I shall demonstrate that our intellectual mind does not perish with our bodies; for the question here is only concerning that mind, not our animal or vegetable minds.

And, in the first place, I say that this intellectual mind is a being distinct by itself, and no part of the body, (though it be so much joined with the body, that it may be said to dwell in it); for it acts by itself. Now what acts by itself, must exist by itself: And it is so far from being assisted by the body in its operations, that it is impeded by it; and never acts so freely, as when it separates itself from body as much as it can: And in this respect it is essentially different from both our animal and vegetable minds; for neither of these can act without body, or be conceived to exist without body. And I say further, it is not only a being different from body, but is of a nature quite different. This I infer from the operations of our intellectual mind, compared with those of the body; for, as in this state

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\* P. 126. See also Vol. I. p. 196.

of our existence we do not know the essence of things, we can only judge of their nature from their actions and operations. Now the operation of our intellectual mind is thinking and reasoning; which it is impossible that we can conceive to be performed by body, by the animal mind which moves our bodies, or by the vegetable mind which digests and concocts our victuals and by which we grow and are nourished. And there is another operation of our intellectual mind, and that is, governing our bodies, our animal and vegetable lives, and, in short, all our little kingdom. Now it is impossible to conceive that this can be done by body, any more than thinking and reasoning, with which it is intimately connected.

The operations of our intellectual mind are so essentially different from those of body, that I have concluded, in that part of this volume to which I have referred, that it is a being of a quite different kind, not a material being, such as the body in which it dwells, but an immaterial being. And if so, how can we suppose, that the extinction of our body should carry with it the extinction likewise of our intellectual mind. It might be as well said that the consequence of a man's house falling must be the death of the man. If, indeed, it fell upon him, it might be his death: But it will not be said that our intellectual mind can perish in that way.

Besides these arguments, from the nature of our intellectual mind and our body, there is one that I have mentioned from the nature of things, which I think is unanswerable; and it is this, that there is no annihilation of any thing in the universe; nor indeed have we so much as the idea of any thing being reduced to nothing, any more than being made out of nothing. Neither are our bodies an exception to this general law of nature; for even they are not reduced to nothing when we die, but are only dissolved and reduced to earth  
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and the other elements of which they are composed. Now that way of perishing, by dissolution, can only apply to body, which has parts, but not to mind, which, being an immaterial substance, does not consist of parts, and consequently cannot perish by dissolution \*.

And thus I think it proved, from incontravertible philosophical principles, that our intellectual mind does not perish with our bodies. What the case is of our other two minds, it is not my business here to inquire; though I incline to be of opinion, that, as even these minds are immaterial substances, and move body in such a way as no material substance can move it, that is, not by external impulse but by internal operations, they do not perish any more than the intellectual mind: But, as they cannot exist by themselves, any more than act by themselves, like the intellectual mind, they are transferred to other bodies, upon which they operate, and are not annihilated; for I cannot conceive that any of the works of God can be annihilated.

The belief in a life after this has been prevalent in all nations, not only civilized, such as the Greeks and Romans, but uncivilized; and at this day it is the belief of the most barbarous nations: So that one should think it proceeded from instinct. But if it be the belief of such nations, how can any man of good sense among us, (suppose him not to be a believer in the Christian revelation), believe that a wise and a good God should destine the noblest animal upon this earth to be miserable here for a few years and then to be annihilated. A man, who thinks so, does not know what he is, nor what his life is, when he restricts it to a few years in this world.

But it will be asked, what is man to do in this future life? Is he to be made happy, or as miserable or more miserable than he is at present?

And

\* Upon this subject I have enlarged in Chap. I. of this volume.



And here, as I have observed \*, the doctrine of the antient philosophers, who maintained the immortality of the intellectual mind, was deficient; for it did not say that virtue was there to be rewarded: So that those philosophers did not furnish to their scholars that great incitement to virtue, the reward given to it in a future life; for what we read in antient books of the Elysian Fields and the Fortunate Islands, is nothing but the fictions of poets, not the doctrine of antient philosophers. But this defect in that philosophy the Christian religion has amply supplied: For our Saviour not only *brought life and immortality to light*, and so confirmed what the antient philosophers knew, that there was to be a life after this life, but has revealed to us, that if men live here as they ought to do, they will be very much happier in a future state. For this reason, as I have said in the passage above quoted, the doctrine of a future life, and the happiness there promised, if we live here as we ought to do, should be carefully inculcated into the lower sort of people; who, though they cannot perceive the beauty of virtue and holiness, may be prompted, by the hopes of reward in a future life, to live a virtuous life here; and may be deterred, by the threatenings of punishment in a future life, which the gospel also threatens, from living vitiously and profligately. But I will say no more here in praise of the Christian religion, which I have commended so much elsewhere†; having shown it not only to be the most philosophical religion that ever existed, as it gives us the best system both of theogony and cosmogony that can be imagined, but the best fitted for the people, by inculcating what should be the principle of all religion, the love of God and of our fellow creatures.

That therefore the Christian religion is the best popular religion that ever was, I think cannot be denied: But it will be said, why should it be so philosophical a religion, as it is intended not for philosophers only, but for the whole human species? To this I answer,

\* Vol. IV. p. 387.

† P. 53 of this Vol. and Vol. V. p. 189.

swer, that the age in which this religion was revealed, that is, the age of Augustus, was a learned and philosophical age; for there was a great deal of learning and philosophy in the two principal nations then in the world, the Roman and the Greek. Accordingly St Paul tells the Athenians, "The times of ignorance were then passed\*;" so that men were prepared for receiving a philosophical religion, such as the Christian; and the Apostle adds, that they themselves were so well prepared for receiving this true religion, that they had erected an altar *to the unknown God*, whom he had come to make known unto them †. It was, therefore, only a learned and philosophical religion, that could be received in the two principal nations then on earth, one of them then the governing nation, without whose favour and countenance it never could have been propagated. Even, at this day, I maintain that people altogether ignorant and uninstructed are not capable of being Christians: Accordingly, the Moravian missionaries, as I have elsewhere observed ‡, were very unsuccessful both in Greenland and in the country of Guinea; and even among us, a man, who has had no education, and is entirely uninstructed, not having learned even the common art of reading, is hardly capable of being made a Christian.

By this I would not be understood to mean that a man cannot be a Christian unless he perfectly understand all the mysteries of this philosophical religion, and particularly the doctrine of the Trinity, which he cannot thoroughly comprehend unless he be a philosopher; and, accordingly, one of the most renowned fathers of the Christian church, not being a philosopher, as it would seem, did not, as I have elsewhere shown ||, understand this doctrine. But my mean-

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\* *Acts of the Apostles*, chap. 17. v. 30.

† *Ibid.* v. 23.

‡ Vol. IV. of this work, p. 393.

|| *Ibid.* p. 392. in the note, and Vol. V. p. 193.

ing is, that a man must have the use of intellect, not the capacity merely, which was all that man had, as I have shown, in his natural state: And, therefore, I say, that a man such as the Orang Outang, not having the use of intellect, cannot be a Christian; and I further say, that a man not only must have the use of intellect in the common affairs of life, but he must have cultivated it to a certain degree, otherwise he cannot be capable of receiving so sublime a religion, and which is truly divine. And it is for that reason that the savages I have mentioned, such as the Greenlanders and the people of Guinea, though they lived in civil society, and consequently must have had the use of intellect to a certain degree, could not be converted to the Christian religion by the labours of the missionaries among them. But, as I have said in this volume \*, if a man have improved his intellect to a certain degree, and believe that Jesus Christ was the son of God, and that he came to this world and took upon him the human form in order to save man from his fallen state, he is a Christian, at least in his faith; and also in practice, if he obey the precepts of the gospel.

The Christian religion is not only of the greatest benefit to men, while they are young and in health, by enabling them to support misfortunes and afflictions, from the hopes of being happier in a future life; but, when they become old, and are approaching to their end, it is the only consolation they can have, and the only thing that can make them die with any ease or comfort; for in this world they can then have no comfort. But if they have lived as they ought to have done, they will have the prospect of being happier in the next life than they could be in this with all the enjoyments that youth and wealth and all the gifts of fortune could furnish them; and this will make a true Christian not only die even a painful death with comfort, if he has lived as he ought to have done, but wish to die  
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\* P. 53.

when God and Nature has appointed that he should die. Whereas a man, who has no prospect of happiness in a future life, cannot leave this life, and the many good things he may enjoy in it, with any comfort or peace of mind, but must consider himself as deprived of all happiness: In short, he must die a painful and miserable death, especially if he leave behind him relations and friends whom he loved, and in whose society he had great pleasure. The Christian religion, therefore, not only enables us to support the greatest misfortunes while we live, but makes us die with the hope of being much happier in the life to come, than we can be in this.

Our future happiness, however, cannot be that in which many people in this life make their happiness to consist; I mean sensual pleasures, and those of vanity and ambition: But it must be purely intellectual, produced by the contemplation of the wisdom, the goodness, and the beauty of the works of God. Now in order to enjoy this highest pleasure in a future life, a man must be prepared for it in this life: And it is not sufficient that he is not vicious or wicked, but he must have cultivated his understanding by arts and sciences, and by the other studies I have mentioned, and so have prepared his mind for the more perfect knowledge which he will have in a future state. In this way his mind will acquire the sense of pleasure, not sensual, but intellectual, and so be prepared for the enjoyment of that pleasure in the next world: For it is a law of nature, and agreeable to the order of things in this universe, that no animal, and indeed I may say no thing, should proceed from one state to another immediately and directly, without being previously prepared for that other state. Before, therefore, such a man comes to enjoy that happiness, which I have mentioned, in a future state, he must first go to another state, in which he is to prepare his mind in the way I have mentioned. But if he be wicked or vicious, he must go to a state dif-

ferent from that I have now mentioned, in which he is to be punished for his wickedness and vices in this state, and in that way prepared to receive instruction in another: For, that he is to be eternally damned, I cannot believe; as I do not think it reconcileable with the goodness of God, that he should have produced any being that was destined, even through his own fault, to be eternally miserable: Nor do I think it reconcileable with the justice of God that any man, for all the offences he could commit in this short life on earth, should be condemned to eternal pain and misery. I therefore cannot believe in the duration of this punishment of man after death, any more than I can believe in the manner of it, by fire and brimstone, which I think cannot be conceived as the punishment of an unembodied mind. At the same time, I think it was not improper to terrify the vulgar (that is by far the greatest part of men) by threatening them with such a punishment, to frighten them from vice and wickedness. I hold it therefore, that after man is brought to a due sense of his transgressions in this life, he is to go to another, in order to prepare himself for a better life: And if he does not there prepare himself sufficiently, he must go on still to another state, till at last he be prepared to enjoy as much happiness as his nature is capable of. Now in passing through these several states, and undergoing pains in each of them, man, being an intelligent animal with consciousness and reflection, must at last be convinced of his folly and repent, and so be delivered from his misery, and made as happy as his nature will admit. For there is a great difference of natures in different individuals; and it would not be consistent with the order of things, and that variety, which we observe in nature, if all the individuals of the same species were equally capable of the same degree of happiness: But the wisdom and goodness of God have so ordered things, that every individual of the human species enjoys, sooner or later, all the happiness that his nature is capable of. And even in this life we may observe, that every

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man is as happy as by his nature he can be: For if a man indulge in bodily pleasures, or in those pleasures of the mind, which vanity and ambition furnish, he will enjoy the gratifications which those pleasures give him; so that he is not perfectly miserable; for he enjoys pleasure, and so is happy to a certain degree, though that pleasure be so much overbalanced by pain, that upon the whole he cannot be said to be happy even in this life, and will suffer much misery in the life to come. Whereas if he practice virtue and religion, he will be as happy, even in this life, as his nature will admit. And thus I think I have explained, what I have advanced in a former part of this Volume\*, and which no doubt would appear a very great paradox to most of my readers, that every man even in this life is as happy as his nature will admit: And indeed it will, upon due consideration, appear to be no paradox, if we consider that every man, by the exercise of his free will, has it in his power to form to himself what may be called a new nature. It was by the exercise of that faculty that man fell from his more perfect state to the state he is now in; and in this state he continues still to exercise that free will, and thus to make to himself a nature that takes delight in virtue and religion; and so he is as happy as he can be in this life. Whereas if by a wrong use of his free will he forms a habit and disposition of mind, by which he makes his happiness to consist in sensual pleasures, or those of vanity and ambition, he is miserable even in this life; and if he does not repent and change his course of life, he will be still more miserable in the life to come.

And thus I think I have proved that man is as happy as his nature will admit; that is, as happy as he could be, both in this life and in the life to come. And if he be miserable in either of these two lives, it is by his own fault, that is, by the abuse of his free will, which is essential to his nature as an intelligent creature, and which God could not have taken from him without annihilating him

\* Pp. 131 and 200.



him as an intelligent creature. As to his misery in this life, it can endure no longer than this life lasts; and even while it lasts, if he bear it as he should do, and seek for consolation in the goodness and mercy of God, it will improve his mind and add to his religion: And as to his misery in a future life, I hope I have proved, to the satisfaction of the reader, that, though it may be very great in that life, it cannot be everlasting.

And here I conclude this long dissertation on the goodness of God and the grand question about the origin of evil; a question about which Plato was so much perplexed. And it was no wonder, as he maintained that the Deity was the *το αγαθον*, or *goodness itself*: And as that was the case, he could not conceive how there should be so much evil in the world which he had created here on earth, and governed. But Plato does not appear to have known the fall of man, though it was known to the Egyptians, and was, as I have elsewhere observed, part of the Eleusynian mysteries\*. Now it is from man that all evil (properly so called on this earth), that is moral evil, proceeds†. And indeed if man had proceeded from his maker an animal such as we see him, I think it would have been impossible to have solved the difficulty concerning the origin of evil, or to have reconciled it with the goodness of God: For then he must have been answerable for all the evil produced by an animal of his own creation. The fall of man, therefore, I hold to be a fundamental doctrine of theology, as well as of the history and philosophy of man. And we are now to inquire whether or not all the evil here on earth is not the necessary consequence of that fall.

That the fall of man was an event which must have happened in the course of nature, I think I have proved‡: For I have shown, that of a great number of beings of imperfect intellects, such as *man*, some must have fallen into great errors, and in that way lost the

\* Vol. IV. p. 379. † Pp. 192 and 193 of this Vol. ‡ Ibid. p. 142.

the use of intellect, retaining still the capacity of it. And such was the state of man when he first appeared on this earth ; where his business is to recover from that fallen state, or at least to make some progress in that recovery, which I have shown can only be by the means of civil society.

But civil society, at the same time that it gives us the use of intellect, produces many more temptations to vice and folly than the natural state ; and by these temptations an animal of an imperfect intellect, such as man, must, in the conduct of his life, be led into great errors, which of necessity must produce much evil in that state. But the wisdom and goodness of God has so ordered matters, that civil society has likewise furnished a remedy, in some degree, for these evils ; for, as the love of knowledge is essential to an intelligent animal, that love of knowledge has, by the means of civil society, and that close intercourse and communication of men which it produces, invented and cultivated arts and sciences, by which the defect of our intelligence, the cause of all our evils, is, as I have shown, in some degree remedied.

From the improvement of our intelligence there arises another remedy of evil ; and that is, the belief in God, or in a Being, one or more, much superior in wisdom and in power to man, and who takes concern in his affairs, and rewards or punishes him according to his deserts ; a belief also in a future state, which I have shown is universal among all civilized nations \*. But as to religion, I have shown that the Christian religion is the best religion that ever existed, or that can be conceived to exist, for making us as happy in this life, as we can be, and for securing to us a much greater happiness in the life to come. And it is this religion which makes the goodness of God to men as compleat as it is possible to conceive :

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\* P. 247 of this Vol.

For he sent to this earth his only begotten son (that is in philosophical language, the only immediate production from him), to assume the human form, and to let men know that the end of this world was approaching, and that, therefore, they should prepare for it, by living in such a way as to escape punishment, and to merit happiness in a future life.

And thus I think *I have justified the ways of God to men* (to use the words of our great Poet), by showing that he is the author of no evil among men, but that all evil arises from the necessity of nature. And, in the first place, it was necessary that there should be intelligences in the universe more or less perfect; for if all intelligences had been equally perfect, there would not have been that variety in the universe, which so compleat a system requires, and where nothing is wanting that can exist without inconsistency with the nature of things, or the attributes of God. Secondly, As man is an animal of an imperfect intelligence, it was necessary, according to the laws of Nature, that some should fall from the state in which they were created, and consequently suffer much evil in the state of trial and probation in which they are at present, before they can be restored to the happier state from which they are fallen. What evil, therefore, man has suffered in his primitive state, or does now suffer, arises from natural necessity; I mean those laws of nature which are part of the constitution of the universe, which, as I have said, God could not alter without altering his own nature: For though we commonly speak of God and Nature as distinct Beings, they are truly but one Being; for what we call *Nature*, is truly nothing but God operating in the material world upon the elements, animals, bodies and minds there, by certain laws called *Laws of Nature*, of which if God should prevent the operations, it would be contradicting himself, and altering his own nature.

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What I have hitherto said considers the goodness of God, as it respects the whole species. But his goodness is particularly exerted with respect to nations: For we are told in our scripture (*Deut.* Chap. 32. v. 8.) that when the Most High divided to the nations their inheritance, he set bounds to the nations *according to the number of his angels*:—So it is translated in the *septuagint*, as I have elsewhere observed\*; and I can have no doubt but it is rightly translated, and that it is a most gross error of our translators when they make it to be, *that he set the bounds of the people according to the number of the children of Israel*; which is both a gross error in the translation, and gives no meaning to the passage. For as God was to exert his providence and goodness with respect to particular nations, it was most natural that he should give each of them a *tutelar* angel: And, accordingly, we read in Daniel of the *governors* and *princes* of different nations who appeared to Daniel in a vision, and whom I understand to be the angels of these nations. Among those is reckoned Michael, who gets the same name of *αρχων* which is given to the angels of the other kingdoms, but who certainly was not a prince, but a guardian angel, of the people of Israel: and the New Testament speaks of *genii* or *spirits* presiding over churches; and they are called there the *angels of churches* †.

And not only with respect to particular nations does the goodness of God exert itself, but also with respect to individuals of the several nations: For we are told in the 18th Chapter of St Matthew, v. 10. that the children have tutelar angels; and in the 12th Chapter and 15th verse of the Acts of the Apostles we read of the *angel* of *Peter* the Apostle. And I think it is perfectly suitable to the goodness and providence of God, that he should commit to the care of

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\* Vol. IV. p. 163.

† See Revelations, Chap. I. v. last.

his ministers not only nations, but individuals. (See Vol. IV. pp. 162 and 163.)

Among the Greeks and Romans it was an universal belief, that, not only every nation had its tutelary god, but families had their *pœnates* and their *lares*. And further, they believed that every man had a Genius which attended him, whom Horace calls

—————natale comes, qui temperet astra,  
Naturæ Deus humanæ—————

And there is a Greek Poet who says,

Παντι κτῆρϊ παρ Δαίμων συμπαραίσταται,  
\* Εὐδὸς γιγνόμενος, μεταγωγὸς τοῦ βίου \*.

And to this Genius the Romans made oblations when they ate and drank.

The savage nations of North America believe that there is a spirit which takes care of them †; and, I think, it is very natural they should have that belief, as they believe in a God, whom they call the *Great Spirit* and in whose name they make their treaties.

And thus much I think may suffice with respect to the goodness of God, so far as man is concerned: What respects his goodness as to other animals, will be considered in the next book.

And here I conclude the history and philosophy of man, of which

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\* The reader here will observe the word *μεταγωγος*, denoting that this Genius conducts our lives in a mysterious manner: And I am persuaded that many things, which we do, proceed from the suggestion of this *spirit* which attends us.

† Long's Travels in North America, p. 86.



I have treated at great length, not only in this volume, but in other volumes of this work. The more I consider man, the more I am convinced that he is not only the chief animal on this earth, but the most various and most wonderful animal here below; being so various in his composition, that he is an epitome of the whole universe, consisting of all the several kinds of minds in the universe, one of which is the governing mind, and of a body wonderfully suited to the operations of these several minds; and all these minds so joined together and so connected with the body, as to make but one system, so admirable, that man, being himself a little world, is a sufficient proof that the great world or universe is likewise one system, formed by one being of supreme intelligence, and also, as I think I have proved, of infinite goodness; which, as I shall show in the next book, is to be seen, not only with respect to man, but with respect to the other animals of this earth.

I would have those, who are curious about animals and delight in hearing of strange animals, consider whether or not man is not the most wonderful animal on this earth, and such that no other animal, like to him, is to be found here below. And as the study of man should gratify their curiosity more than the study of any other animal, so it should improve their understanding more: For in man, as I have shown elsewhere\*, are to be found the materials of the most valuable knowledge and of the highest philosophy, I mean theology.

When we add to the variety of his composition by nature his wonderful progress from the state of a brute animal of the better kind, that is a *logical animal*, as Aristotle has defined him in the natural state†, to a state of civil society, in which he is transformed

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\* Pp. 222 and 223 of this Vol.

† P. 144 of this Vol. and Chap. I. Vol. IV.



to an animal not only very different from man in his natural state, but very various in himself, according to the difference of the societies in which he lives, I hope the reader will not think that I have exaggerated, when I have said that he is the most various and most wonderful animal of this earth.

If the reader desires to know more of the wonderful variety of man, he may read what I have said upon the subject in Vol. V. of this work, pp. 226. 322. and 323. where I have proved that man, in his natural state, is not only a most various animal, more various than any other on this earth, but still more various in his civilized state, and indeed the most various animal that can be imagined; for, as Horace says, in that state

———Quot capitum vivunt, totidem studiorum  
Millia———

To what I have said here and in other passages referred to, upon the subject of the variety of man, I will add another variety in his nature, which appears more wonderful than any that I have yet mentioned;—that he is not only a land-animal, but a sea-animal; and that there are *mermaids*, that is, *sea women* and *sea men*, who live as constantly in the sea, as any fish that swims there. This I have proved in the 3d Vol. of this work, p. 254 and following, upon evidence that, I think, cannot be contraverted. These animals appear to have lived not only constantly in the sea, but to have been produced there. But what I think still more extraordinary, I have proved in the 4th Vol. of this work (p. 36 and following), that a man, who has been born and educated upon the land, may take to the sea, and live there, like the animals belonging to that element, for sundry years. So that there is in the nature of man all the variety that can possibly be imagined in one animal.

Man

Man being by his nature so various and so wonderful an animal, his history is no less various and wonderful, as he has passed through so many different states. He was created little inferior to the angels, as our scripture tells us, but with an intellect not perfect, any more than theirs : And, accordingly, some of his species fell, as well as some angels\*. Those of our species, who fell and who inhabit this earth, have fallen very low, both as to their bodies and their minds. As to their bodies, I think I have shown † that man in his original state on this earth, had not even the erect form which he now enjoys, but was a quadruped, and walked upon all four. As to his mind, he had not the use of intellect, but only the capacity of acquiring it ; the consequence of which was, that he had none of the arts of life, not even the art of language, the foundation of all other arts. His progress from that state, to the state in which we now see him, makes his history most wonderful.

Of his progress in science and philosophy I have said a good deal in a preceding part of this volume ‡: And I am here to speak of his progress in arts, of which I have also said something in what I have mentioned concerning some modern discoveries that have been made of that kind §. But I will here say a good deal more, beginning with the common arts of life, of which the number and variety is so great, that he may be said to have made a world of art, to which nothing can be compared but the great world of nature ¶. But these arts are now so common and so much practised, that we are disposed to think that they were as easy in the invention as they are now in the practice. But a philosopher, who goes beyond the practice of them, to the invention, knows that they could not have been

\* See what I have said upon the Fall of Man, pp. 142 and 143 of this Vol.

† P. 233 of this Vol. and Vol. III. p. 74. and Vol. IV. p. 22.

‡ P. 175 of this Vol.

§ Chap. XIV. of this Book.

¶ Vol. IV. p. 23.

been invented but by men who had the use of intellect in a very great degree : And he will be surpris'd when he considers how man has been able to use that dominion, which the Creator has bestowed upon us, over this lower world. We have made the animal, the vegetable, and the mineral kingdoms, all subservient to our uses ; and have employed all the powers of nature, that can be employed in this earth, first the earth itself, then the air, the water, and the fire, in forming this wonderful world of art.

I will here give some general account of the common arts of life invented by man, which I hold to be a necessary part of his history, as without these he could not have lived in civil society.

The first and most necessary art, so necessary that without it no other art could have been invented, is language, of which I have said a great deal in the course of this work \* ; where I have shown, that, though it be the most common art among men, it is a most wonderful art, (of which I think we need no other proof, than the comparison of it with our animal cries, from which it is formed †), and of such difficult invention, that it could not have been invented by man without supernatural assistance, which was given him by those dæmon kings of Egypt, who were beings of intellect superior to man ; for it was in Egypt that an art of language was first invented, and it was from Egypt that other countries learned the art. By this I would not be understood to mean that, neither in other countries, before the art was invented in Egypt, nor even there before its invention, men had not the use of inarticulate cries, with a mixture of some articulate sounds, which they may have formed by imitation of certain birds, such as the cuckoo ; but I say that in Egypt only language was first formed into an art. How difficult it was to do that,

\* Vol. IV. p. 262, and p. 151 and following of this Vol.

† Ibidem.

that, we may judge from the invention of the alphabet, which is the foundation of the whole art, and which, as I have said \*, was invented in Egypt as well as the rest of the art ; for, though from its being the first thing that our children are taught, when they are incapable of learning any thing else, we may think it a very easy and obvious art, a philosopher knows, that it was a great discovery, and a very wonderful work of analysis, by which all the articulate sounds, of which language is composed, so many and so various and mixed and joined together in so many syllables and words, are analyzed into the elemental sounds of which they are composed. This analysis was the more valuable, that without it another most curious and most useful art could not have been discovered ; I mean the writing art, by which we make sounds visible, and speak to the eyes as well as to the ears.—But of this art and of language I have said enough in other parts of this work : I will therefore proceed to other arts of life, beginning with agriculture, which is so necessary an art for the constitution of civil society, that it must have been the beginning of all society of that kind ; for civil society must have been formed by a number of men living together in a settled state of life and in close intercourse ; and it is only by agriculture that men can subsist in that way. It is true however, as I have elsewhere observed, that men can subsist upon the natural fruits of the earth, but not in any great numbers ; so that it would be impossible that a country could be well inhabited, where the people had no other means of subsisting. In Egypt, the most fruitful country I believe in the world, wheat and barley grew naturally, as I have elsewhere observed † ; and even a finer grain than either of these, called by the Greeks *æca*, and which was the *far* of the Romans, as I have also observed ‡ : And yet upon these, and what other fruits the coun-

try

\* Vol. IV. p. 262.

† Ibid. p. 139.

‡ Ibid. p. 140.

try may have produced, I think it was impossible that Egypt could have maintained such a number of inhabitants as made it the best peopled country, I believe, for its extent that ever was in the world, and, at the same time, have enabled the Egyptians to send colonies to so many different countries, some of them very remote, such as India, and in that way to people a considerable part of the earth. Even in Egypt, therefore, it was necessary to stir the earth by ploughing and harrowing, and so raise it up, expose it to the air, and pulverise it to a certain degree, and at the same time enrich it with dung or with an addition of pulverised earth. And if it was necessary in Egypt, with such a soil, such a climate, and such a river, how much more necessary must it be in other countries of this earth—So that without agriculture, the earth could not have been peopled, nor civil society of any value formed. It is true that man may live by hunting and by pasturage; and in that way the Tartars live, and some other nations: But among them there is not what can properly be called civil society, nor any regular government; so that it is impossible that among them any arts or sciences could be invented. Agriculture, therefore, may be said to be the parent of civil society: And accordingly Ceres was worshipped among the antients, not only as the goddess of agriculture, but of laws and government.

There is another art invented by man, and which was of absolute necessity for carrying on the business of civil life: The art I mean is arithmetic, or the art of numbers. Of this I have spoken in p. 171 and 172 of this volume; to which I will only add here, that as *number* is a *multitude*, consisting of an infinite number of *monads*, without any bounds set to them by nature, it was a work, I think, of great art, to set bounds to this infinity, and to make what the Greeks called *πληθος ὁρισμενον*, without which numbers could have been of no use. That this was a matter of difficulty, is, I think, evident from the nature of the thing: But it is likewise proved from fact,  
by



by the different practices of nations, which I have mentioned in the passage above referred to, setting different bounds to this infinity, till at last they fixed that boundary, which is now used by all civilized nations, and even by the Hurons, a barbarous people in North America; I mean the number *ten*; for all the arithmetic of civilized nations consists of that number, multiplied by the units of which it consists and by itself: And these multiplications, with the addition of the units under *ten*, make all the variety of number that can be conceived. But all this is no more than the Notation of numbers: For the operations upon these numbers thus formed make a very valuable science that we call *arithmetic*; which is of the greatest use in all arts and sciences, and of absolute necessity in the common affairs of life.

But it is not the purpose of this work to give a particular account of any science, but only to explain, in general, the nature of them, and to show their use. I will, therefore, proceed to speak of arts invented by men, beginning with those arts, which may be called Mechanical; and though they may be thought mean arts, they are of absolute necessity for carrying on the business of civil life. And first I will mention the grand art of Metallurgy, so necessary, that it is the foundation of all those other arts I am now to mention, and of one art that I have already mentioned, and a most necessary art, I mean Agriculture, which could not be carried on to any purpose without instruments made of metal.

For the discovery of this art of metallurgy, it was necessary that the inventive genius of man, not content with what he could find in the air, in the water, or on the surface of the earth, should dig into the bowels of the earth, and from thence bring out metals, and particularly iron, which is of more use in the practice of all the necessary arts of life, and particularly in agriculture, than all the other



arts besides. And there is another necessary art of life, for the practice of which iron is likewise necessary : The art I mean is that of Building, which we not only have employed for the necessary uses of life, but have made it an art of great ornament, so great, that it may be called one of the *fine arts*. The use of this metal of iron in human life is so great, that some of the nations, we call *barbarous*, hold it of more value than either gold or silver.

But the art of man does not end with digging this metal out of the earth ; but after it is so dug, which is commonly with great expence of labour, and with the use of that art, which is called *mining*, it is further necessary, in order to make it fit for the uses of life, that it should go through the fire, and be prepared by it for these uses. And here we may observe another proof of the inventive genius of man, who has applied the element of fire to this and to so many other uses, that without it civil life could not be carried on.

The use of metals appears to be so necessary for carrying on the business of civil life, that the barbarous nations, who have not the use of them, are obliged to employ in their place flints and other stones and even bones, so that the want of metallurgy makes one of the chief differences betwixt the life of those barbarous nations and that of the civilized nations of Europe ; and it appears to us wonderful how they can carry on the civil life at all, without the use of metals. And there is another thing they want, which makes it still more wonderful that they should be able to live in the civilized state, and that is, the want of animals tamed and domesticated, who among us do a great part of the business by which we supply the wants of that life, and particularly the business of the chief art of civil life, agriculture.

And

And this leads me to speak of the use we have made of that dominion, which it has pleased God to give us over the animals of this earth, as well as over the fish of the sea. As to the animals of the earth, we have not only subdued and tamed the ox, and made him most useful to us both in the practice of the necessary art of agriculture, and for the purpose of food, but also the horse, the finest animal that we have in Europe, both for use and for shew; so that I do not wonder that Homer has dignified his heroes with the title of ἵπποδάμους, or *horse-subduer*. Antient history informs us, that horses were first employed only to draw the chariots in which men fought: But afterwards they were mounted; and in that way was formed the greatest military force, that ever was employed by men, when to the swiftness of the horse they could join the use of the bow, of the spear, and of the sword. Of this kind were the armies of the Parthians, so formidable to the Romans; and in later times those of Genchis Chan and Tamerlane, by which they overran and subdued such vast tracks of country.

But not only have we tamed and domesticated the horse, and made him of the greatest use as well as ornament to us, but we have also subdued and tamed the largest animal of the earth, exceeding every other of the brute kind, not only in size and strength, but in sagacity; I mean the elephant; and have made him useful, not only in war, but in domestic offices: Of him however I shall speak at more length in the next Book. And as God has given us dominion over the fish of the sea, as well as over the animals of the earth\*, the whale, the largest animal in the water, we have contrived to kill, and have made his carcase useful for certain purposes. The fish both in the seas and rivers we have invented several ways of catching; so that they make a considerable part of our food in Europe, and I think the finest of our food; and there are some barbarous nations that

\* Genesis, Chap. I. v. 28.

live almost entirely by fiſh \*. The ſea itſelf, which is the receptacle of all the rivers, and produces more fiſh than all of them, we may be ſaid to have ſubdued; and to have triumphed over the winds and waves in machines of ſuch enormous bulk, vomiting fire and ſmoke, and making ſuch havoc and deſtruction at ſuch a diſtance, that to a man uninſtructed in our arts it would appear abſolutely incredible that ſuch machines, though they might have been invented by us, could have been governed by animals of ſuch ſmall ſize and ſtrength as we are. The other inferior arts of life, though they do not ſtrike us with ſo much aſtoniſhment as theſe I have mentioned, yet to a philoſopher muſt appear very wonderful: For by theſe arts we have metamorphoſed the things of nature, that they are not to be known except by thoſe who are acquainted with our arts. Thus for example, the *fine linen of Egypt* (as it is very properly called in our ſacred books), which now is become the common wear of all the inhabitants of Europe, who could imagine to be made of a coarſe vegetable ſuch as *flax*? Or that the cotton manufacture was the growth of a tree? Who could divine that the cloaths, we wear, were originally the covering of ſheep; or that the ſilk, with which our ladies are adorned, was produced and ſpun into very fine threads by a worm? Who, uninſtructed, as I have ſaid, in our arts, could imagine that the beer we drink was made of a vegetable, ſuch as barley, which muſt be firſt *malted*, by which operation the grain may be ſaid to be *putrified*, ſo that the Romans called beer, *vinum ex corruptis frugibus* †; or the wine, of a plant, ſuch as the vine? Or that either of theſe liquors could be exalted to a ſpirit producing ſuch effects upon the animal body, as what is produced by rum, brandy, aquavite, and gin? Which, though they have been of no uſe to us, but, on the contrary, have done, and are ſtill doing, a great deal of miſchief, yet do honour  
to

\* See what I have ſaid upon this ſubject in Vol. III. of this work, p. 49.

† See p. 142 of Vol. IV. of this work.

to the genius of men, and to modern times, by the invention ; for spirits were altogether unknown to the antients. These considerations show what a wonderful world of art we live in, which may be said to be created by man ; for he has in himself so much *divinae particulae*, that he is a creator not only of the works of the *fine arts*, but of those mechanical productions, which I have mentioned. And it is by such operations that he has exercised and improved his intellectual faculty, and prepared himself for a state of greater perfection in the world to come. For if by instinct he could have provided himself with every thing he wanted in this world, as other animals do, he never could have cultivated his intellect so much as to make it fit for the liberal arts, sciences, and philosophy, by which, and which only, his intellectual part could be so much improved and exalted in this world, as to make him fit for a better.

And the mention, I have made, of the liberal arts, leads me to speak of them. The subjects of the arts of life, or mechanical arts, as they may be called, are natural things, which we have changed in a wonderful way, and adapted to the purposes of civil life. But though they are most useful, and show a great deal of sagacity and natural parts in those who invented them, they have not the beauty of the fine arts. Of one of these arts, I mean music, I have spoken already ; and I will only mention another, which I hold to be the finest of all the fine arts ; and that is poetry, the subject of which is man himself. For he has not only employed his genius upon the works of nature, but also upon his own ; producing such works of art as epic poetry, in which concur all the beauties that can be imagined ; first of the *fable*, as it is called, that is the *story*, which is the subject of the piece, and which is carried on through a series of events, all tending, more or less, to bring on the catastrophe or conclusion ; next it abounds with variety of characters, manners, and sentiments, so as to be as instructive as it is entertaining ; and it is adorned, at the same time,

time, with versification and every ornament of stile, especially if it be in such a language as the Greek, which, besides the beauty of the numbers that make the verse, is composed of words, which have in themselves, without the aid of versification, both melody and rhythm: For the composition of long and short syllables, makes the rhythm of the language; and its accents are musical tones. Now, as all music consists of melody and rhythm, the Greek verse, which, from its rhythm being measured and governed by certain rules, is called *μετρον*, may be said to join together music and poetry, the two finest of the fine arts.

In a work of this kind, it would be improper to speak of other kinds of poetry, such as the tragic or the comic. As to the tragic, I will only observe, that the choruses of the Greek tragedy presented the finest scenes of the imitative kind that can be imagined: For there were there joined three imitative arts, all operating at the same time; poetry, music, and that art, by which actions, passions, and sentiments were represented by the motions of the body to music. This last kind of imitation the Romans adopted, and were extremely fond of it: But they separated from it music and poetry; so that they made it an exhibition much inferior to the chorus of the Greek tragedy, which affected the spectators so much. I will only say further of the three kinds of poetry I have mentioned, that in the composition of them the genius of man has improved upon nature; for no events of human life, that have actually happened, would make a good epic poem, a tragedy, or a comedy, if the inventive genius of man did not arrange the events in a manner different from that in which they actually existed, and, at the same time, take from them many circumstances, and add others, by which they adorned them very much. Upon the subject of the fine arts I will add, that there is another in which we likewise make improvements upon nature: The art I mean is painting, and particularly



larly historical painting, in which we make finer figures of men and other animals, than are to be found in nature. And even in landscape painting, I was told by a famous landscape painter in London, Mr Lambert in Covent Garden, that he had often tried to copy from nature landscapes that he thought exceedingly fine; but they did not answer in the piece, without considerable alterations that he made upon them.

I will conclude this history of man, and of the arts he has invented, with a short recapitulation of what has happened to him on this earth since his fall. When he first appeared here below, he was, as Aristotle tells us, only a better kind of animal, which he calls a *logical animal*, that is, an animal which can compare its sensations, and distinguish one from another. In this state, as the same author tells us, he had not intellect, but only the capacity of acquiring intellect and science\*: But he never would have acquired either, except, as I have shown †, by the means of civil society. By the close communication of men in a society of that kind he first acquired the use of intellect; and then he improved it very much by the invention and the practice of the necessary arts of life, of those of ease and convenience, and, lastly, of the liberal arts; of all which I have spoken at some length.

Having in this manner acquired and improved the use of intellect, he also improved his sense of the *beautiful*, which is as natural to man as intellect. This sense induced men to study those fine arts which I have spoken of; for these arts we do not cultivate for their utility, as we do those common arts of life which I have also mentioned. And this leads me to speak of *beauty*, of which

\* See what I have said upon this admirable definition of man in his natural state, which I have made the foundation of my whole philosophy of man, Vol. IV. p. 12 and following.

† P. 146 and following of this Vol.



which I have said a good deal in other parts of this work \*. But I think it deserves further consideration ; for, as it consists in the perception of the order and regularity of things, such as make them a *whole*, or *system*, which is the definition of the *beautiful* that I have given elsewhere †, it can only be perceived by the intellect, and it must be so perceived : For it is so congenial to intellect, that we cannot conceive any animal having the use of intellect, and not perceiving such order and regularity in things. It is universal in nature : For I think I have shown that there is in the universe an order, regularity, and connection of the several parts of it, such as make it a system of wonderful beauty as well as grandeur and extent ; and I have shown also, that even parts of it considered separately, such as animals and plants, are each in themselves systems.

It is predominant also in our sentiments, passions, and actions, and forms what we call the characters of men ; by which they are objects of love and esteem, or of hatred and contempt. It also makes the only happiness of the intellectual mind : For we cannot conceive that mind to be happy otherwise than by the contemplation of the fair and the beautiful, either in itself or in other things.

As to man, it is the source of love and friendship, and makes him enjoy, what, I think, is the greatest blessing in this life, that of loving and of being loved. It gives him the enjoyment, as I have said, of the fine arts, and indeed of all arts and sciences : For it is the beauty as well as the utility of arts and sciences, which makes us apply to them ; and a man, who does not perceive the beauty of them, is deficient in genius, and never will make any great proficiency in them.

As

\* P. 196 of this Vol. Vol. V. pp. 118, 125, 156, and 217, and Vol. II. p. 105, &c.

† See this definition in Vol. II. p. 120.

As Beauty is perceived by the intellect only, and not by the senses, it does not belong to objects of sense considered only as such, that is, as perceived by the senses. In the taste therefore of such objects, in their smell, their feeling, their colour, or in the sound they produce, there is no beauty; and these are the only things which the senses perceive in such objects. These indeed may give us pleasure, and often give us a great deal of pleasure: But it is of the sensual kind, not of the intellectual; of which kind only is the pleasure of Beauty. When we perceive therefore that any thing has a fine taste, a fine smell, a fine feeling, a fine colour, or a fine sound, if we mean that it is beautiful, we speak improperly; for all these are only perceptions of sense, which, as I have said, may give us a great deal of pleasure, but are not beautiful, because they affect only the senses and not the intellect. Of these perceptions, Colour is what strikes our sense of seeing; and, if it be very bright, or if there be a great many bright objects together, they make a very splendid show and affect our senses in a very lively manner. The same is true of Sound, which, if it be fine and delicate, soothes the sense very agreeably; and, if it be loud or strong, it surprises us, and in that way gives us a certain pleasure, but has nothing of the beautiful in it. Of these objects that I have mentioned, those that are perceived by the senses of Seeing and Hearing may have a certain order and arrangement, and be so connected with one another, that the mind will perceive beauty in them: But this cannot be the case of the other objects of sense that I have mentioned, such as Smelling, Tasting, or Feeling; which it is impossible to conceive to be so ordered and arranged, as to give us any idea of beauty. And thus I think I have very clearly shown, that no perceptions of sense can give us the idea of beauty, though the objects which produce those sensations may be so ordered and arranged, and made to operate in such a way, as to give us that idea. From what I have hitherto said of the beautiful, I think I have proved, not only that it gives us the highest pleasure,

and the only pleasure that the intellectual mind enjoys, but that it is of the greatest use in human life. But there are other two things, which I have not yet mentioned, and these of very much greater importance in human life; I mean virtue and religion, with which Beauty is essentially connected.

From Aristotle I have learned that Beauty is the principle of virtue\*; for he has defined virtue to be *Ὁρμη προς το καλον*, that is, a *natural*, or *instinctive*, as it may be called, propensity towards *the beautiful*; but he has added very properly to the definition, *μετα λογου*, that is, *with reason*, or *guided by reason*. And accordingly I have shown in a preceding chapter†, that the sense of the beautiful, if not governed and conducted by reason, leads to very great vices, follies, and crimes; whereas, if it be properly conducted, it makes men not only virtuous, but also religious, (as I shall show in the sequel), and consequently happy.

With Aristotle's philosophy as to virtue the philosophy of the Pythagorean school perfectly agrees. This school was the most antient and the best school of philosophy that ever was in Greece: For Pythagoras was twenty two years in Egypt, the parent country of philosophy and all the other sciences; from which country he first imported philosophy into Italy, and thence it was brought into Greece‡. The testimony of Pythagoras in support of this doctrine of Aristotle I have elsewhere quoted§; and Plato has told us, from the mouth of Socrates, that to know perfectly what Beauty is, or the *αυτο το καλον*, is the greatest wisdom and the greatest happiness of men||.

And

\* Vol. V. p. 125. † P. 221.

‡ See what I have said of this extraordinary man in the Preface to the 3d Vol. of this work, p. 14. and following.

§ Ibid. p. 34.

|| Vol. V. of this work, p. 122. See also p. 197 of this Vol.

And not only is this doctrine of Aristotle, concerning the Beautiful, supported by the opinion of so great philosophers as Pythagoras and Plato, but by a still greater authority, as appears from what I have said in Volume V. of this work, (p. 128.) and Volume IV. of Origin of Language, (pp. 368. and 369.) where I have shown that the Apostle Paul, in his 1st Epistle to the Thessalonians, sums up the whole duty of a Christian with these words, *παντα δοκιμαζετε, το καλον κατεχετε*; which I think is plainly saying, “That of all the things belonging to Christianity, the *το καλον* is, upon consideration, that which is principal, and therefore we should *“bold it first* ;” and so the word *κατεχετε* is translated, and properly translated, in our bible. But the *το καλον* we have translated improperly, when we have made it to be *that which is good*: For the *καλον* and the *αγαθον* are distinguished in scripture, as well as in other Greek writings. In these they are expressed in one word, *καλοσαγαθος*: But in our scripture they are distinguished by different words, connected by the conjunction *και*\*; which demonstrates, that, though they may be united together, they denote different things.

I will now proceed to show that Beauty is the principle of religion as well as of virtue. In another part of this work I have shown that the *love* both of God and of our fellow creatures, is the great principle of the Christian religion. The love of God is delivered with greater copiousness of expression than any other duty of the Christian religion; for we are required to love God “with all our heart, and with all our soul, with all our strength, and with all our mind†.” Now the object of Love is Beauty; and though we could suppose a being that had the greatest power, and could inflict the

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severest

\* In the Parable of the Sower, (Luke, Chap. VIII. v. 15.); where the expression is used, *Εν καλη και αγαθη καρδια.*

† Vol. IV. p. 391.

severest punishments upon those who offended him, yet, if he had not beauty, he could not *be loved*, though he would be feared. But God is a being of supreme intelligence and supreme goodness; which two qualities together must make him the most amiable of beings, who therefore must be loved by every man who knows him: And though he be likewise an object of fear, yet our scripture tells us, that our love of God “must not be mixed with fear\*.”

The reader may be surpris'd that I have written so much upon the subject of Beauty in this volume and in other parts of this work. But he should consider that Beauty, as I have said, is universal in nature, and of much greater influence than any other thing in human life, not only being, as I have shown, the principle of virtue, of religion, and of honour †, but also having a connection, more or less, with almost every action of our life; and that Plato, as I have observed before, from the mouth of Socrates, has told us, that to know perfectly what Beauty is, or the *αυτο το καλον*, is the greatest wisdom and the greatest happiness of men.

I will only say further upon this subject, that those, who deny that Beauty has a real existence in nature and hold that it exists only in the imaginations of men, deny at the same time that the intellectual mind enjoys any real pleasure. That it does not enjoy sensual pleasures, every body must allow: But I say further, that even wealth and power give no pleasure to the intellectual mind, except by affording it the means of enjoying the pleasure of doing good, by relieving the distresses of the poor, rewarding the virtuous, and serving the public. Such persons therefore must also deny that virtue gives any pleasure to the intellectual mind; and that the beauty of holiness, and the contemplation of the wisdom and goodness of God give pleasure

\* See p. 391 of Vol. IV.

† Vol. V. p. 125.



pleasure to that mind: Neither can they admit that the fine arts give any pleasure to our intellect, or any arts or sciences; for I say that it is the beauty, which we discover in science, that gives us the pleasure it affords:—In short they must deny that our intellectual mind enjoys any pleasure; and must maintain that our whole happiness consists in the pleasures of the animal life, which the brutes enjoy.

I will conclude this long dissertation upon the Beautiful, by referring to a passage in a preceding part of this Vol. (pp. 189 and 190), where I have said that the wisdom and goodness of God are manifested by his making the sense of the beautiful so congenial to our nature as intelligent beings, that we cannot have the least degree of intelligence without some sense of it; and that, as it is the foundation both of virtue and religion, we appear to be “formed by Nature for both.” To which I will add, that the goodness of God is manifested, not only by giving an instinct to our animal nature, by which we and other animals are directed to do what is necessary for its preservation, but also by giving an instinctive tendency to our intellectual mind, by which it is prompted both to virtue and religion, which must make its greatest happiness.

Thus I hope the reader will think I have said enough to prove the goodness, as well as the wisdom of God, towards man: For I have shown that, according to the order of nature, it was of necessity that some of the species should fall; and, in consequence of that fall, lose the use of intellect, retaining only the capacity of it;—That, for being restored to the use of intellect, civil society was absolutely necessary; and accordingly by civil society we have recovered the use of intellect, all men more or less;—That though civil society must necessarily produce, among men of weak and imperfect intellects, many vices and follies,



follies, which muſt make the greater part of them not happy in this life, the goodneſs of God has ſo ordered matters, that, by the cultivation of arts and ſciences, and eſpecially by religion, we may correct thoſe vices and follies, and improve our intellect ſo much, as to make us fit for a better and happier ſtate in the life to come : Or if we ſhould not do that, that we muſt go to another life of ſeverer trial and probation ; and ſo on from one ſtate to another, till at laſt every one of us ſhall attain to all the happineſs that his nature is capable of.

And this much, I hope, will ſatisfy the reader, that the goodneſs of God, with reſpect to man, is as great as it could be in conſiſtence with the general laws of nature, which, as they are parts of the nature of God, could not be altered : For, as I have ſhown, what we call Nature \*, is nothing elſe but God operating in this material world.

I am next to ſpeak of the goodneſs of God with reſpect to the other animals of this earth, which will be the ſubject of the following Book. But before I conclude this Book I muſt add to what I have ſaid of the goodneſs of God to man, that I ſhould think myſelf wanting in the duty I owe to God, if I did not acknowledge his goodneſs in enabling me, old and infirm as I am, to enjoy the greateſt happineſs that man can enjoy in this life, by which at the ſame time he is prepared for the enjoyment of that happineſs in a much greater degree in the life to come : The happineſs I mean, is the contemplation of the wiſdom and goodneſs of God.

## BOOK

\* Vol. II. p. 360.

## B O O K IV.

The Goodneſs of God manifested in the Economy  
of the Brute Creation.

## C H A P. I.

*The happineſs enjoyed by Brutes, compared with that of Man.—The diſtinction betwixt Man and Brute to be accurately made.—Mind the origin of all the Motions in Nature.—Enumeration of the different kinds of Mind:—1ſt, The Supreme Mind and the two Principles of Intelligence and Vitality, compoſing the Trinity; 2d, Inferior Intelligences, ſuch as Man; 3d, The Animal Mind; 4th, The Vegetable; and 5th, The Elemental Mind.—Difference betwixt the Animal and Vegetable Minds.—The Animal much more various in its ſtructure and operations.—The Brute held to be a mere machine by Buffon.—This Opinion rejected by the Author, and by Mr Smellie in his Philoſophy of Natural Hiſtory.—Motions of the Brute produced by the Mind of Brute.—Inquiry into the Nature of that Mind.—Is it Animal or Intellectual?—According to Mr Smellie it is Intellectual, but of an inferior kind to that of Man, called by him Inſtinct.—The Author's opinion, that the Brute has not Intellect,*

*lect, and therefore acts necessarily, not having will or free will.—Arguments in support of the Author's opinion.—The Instinct of the Brutes explained.—The Brute wants Consciousness.—Instinct not confined to the Brutes, but also a part of the Nature of Man.—Approximation of different Natures exemplified in Zoophytes—in the Flying Fish—and of Instinct and Intellect in the Elephant—Extraordinary instances of his Sagacity, and of that of the Dog, from Mr Smellie's Book.—These Brutes may almost be said to have Ideas ;—They cannot however discover the one in the many, nor distinguish things into genera and species :—This the essential difference betwixt Man and Brute.—Aristotle's distinction betwixt Logical or Rational and Intellectual, explained.—The Brute Reasons or Compares by means of his Phantasia.—Difference betwixt the objects of Man's Comparison and those of the Brutes.*

**H**ITHERTO I have spoken of an animal who is not such as he came out of the hands of his Creator, and who may be said to have made himself: But I come now to speak of animals, who have not changed their state, but are still such as they came out of the hands of their Creator; I mean the Brute Creation here on earth; and I will show that, though they be not capable of near so much happiness as man is, yet they enjoy much more than by far the greater part of men do in this life. But before I come to treat of this subject, I think it is proper to say something of the brute nature as distinguished from the nature of man, and to inquire what it is in the brute that produces so many various actions; whether it be his body only, or his mind? and if it be his mind, whether it be what I call the animal mind, or the intellectual, such as is in man.

To distinguish accurately and philosophically betwixt the mind of  
man

man and that of the brute, is a thing not without difficulty, but I think of importance, as every thing relating to mind is ; for it is mind that has produced this universe, and formed it into a system. And as the system of the universe was formed by mind, so every part of it is executed by mind ; for it is by motion that all the operations of nature in this universe are performed. Now I hope I have proved, to the reader's satisfaction, that all the motions of the universe proceed originally from mind ; for, though motion be no doubt produced by one body acting upon another by pulsion, trusion, or by drawing it, yet the body, which in this manner acts upon another and puts it in motion, must itself be first moved ; and that can only be by mind.

And here the reader may observe, in passing, the different ways in which body and mind move bodies. Body, as I have said, moves another body by pulsion, trusion, or by drawing it ; but in none of these ways can we conceive mind moving body. It cannot therefore move body by any outward application to the body, but must move it by acting upon it inwardly, and not upon the surface of it, as body acts upon body. Now I think this shows an essential difference betwixt mind and body ; for we cannot conceive body entering into body without making a breach in the body. And if we could conceive it entering the body in this way, how can we conceive it moving the body from within, and not one part of the body but the whole body, so as to make it go from place to place, and to move in every direction, up or down, from one side to another, and in a straight or a curve line. And this, as I have observed already \*, may give the most vulgar man an idea of an immaterial substance, which otherwise he cannot easily conceive, and of which it does not appear that even the Greeks had any conception till Pythagoras came among them, and brought phi-

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\* Pp. 23 and 24 of this Vol.

lophony from Egypt. As therefore mind has not only produced the universe and formed a system of it, but also performs every thing in that system (a system which is always in motion), it must be of the greatest importance, both in the philosophy of nature and in theology, to know perfectly the nature of a being which produces such wonderful effects. Upon this subject I have said a great deal in different parts of this work, of which I am persuaded the reader will not be displeased that I give here a short summary, enumerating all the various kinds of mind in the universe, and mentioning what operations they perform.

The first and principal mind, from which all the others proceed, is the Supreme Mind, that is God. His nature I have endeavoured to explain, having shown that he consists of three substances, in the same manner as man does, who is the image of God here below, and who consists of the intellectual, the animal, and the vegetable minds, making all three but one Being. The supreme mind in like manner consists of three substances, or Persons as they are called, God the Father, from whom has proceeded God the Son, that is the principle of intelligence, and who is said in the language of our scripture to be *the only begotten of the father*, or, in the language of philosophy, the only immediate production from the father or first cause of all things, and by whom the whole system of the universe was formed; and from him, that is from intelligence, was produced *the Holy Spirit*, or *third person* of the Trinity. From the first person therefore every thing in the universe proceeds; first Intelligence, by which every thing in the universe has been formed into a system of the greatest perfection that it is possible to imagine; and from intelligence the *Holy Spirit*, which has given life and animation to the whole system. From the principle of intelligence, the second person of the trinity, have proceeded all the intelligences of the universe, some of greater excellency, some of less; and among  
these



these last is *man*, who appears to be the lowest of intellectual beings, but is the chief animal of this earth, being there the only intellectual being. From the third person of the trinity, the Holy Spirit, proceed all the other minds in this universe, and particularly the minds which animate bodies on this earth, and give them motion and action: Of these bodies some are organized and some not organized. By organized bodies I mean bodies that have parts called organs, which perform certain motions by themselves, that are useful to the whole body; and this is the case of animals and plants: Whereas unorganized bodies have no such organs, and therefore are moved altogether and directly and immediately by the mind in them; and that is the case of minerals, such as earth, stones, and metals.

But there is one mind which moves equally without distinction all bodies, organized and unorganized; and it is a mind, which gives life and animation to all nature, and therefore I think may not improperly be called the *anima mundi*. This mind I call the *elemental mind*, as it moves, among other things, the elements; but it is called by Aristotle, not improperly, *nature*, being the principle of motion in all natural bodies\*.

The minds I am now to speak of are not universal, such as the elemental mind, but belong only to particular subjects; I mean bodies organized, such as vegetables and animals†. The vegetable has in it a mind which moves different organs or members of it, such as its roots, branches, and leaves; by which motion the vegetable is nourished, grows, and propagates its kind. Our modern philosophers I know will be surprised that I should give a mind to a vegetable. If I gave it an intellectual or even an animal mind, that is

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\* See Vol. II. of this work, p. 360.

† Of the different kinds of Mind, see p. 34, &c. of this Vol.



a mind which has perceptions by the senses, and consequently is capable of pleasure and pain, they would have good reason to be surprised. But the mind I give to the vegetable, is only a mind that moves the several parts of it, by which, as I have said, it is nourished, grows, and propagates its kind. Now a man, who believes that all the various operations of the vegetable, by which it grows and is nourished, puts forth leaves, flowers, and fruits, are all performed by mere matter and mechanism, without the operation of mind, may also believe, as I have said elsewhere \*, that all the operations of nature are performed by matter or body without mind: And he must likewise believe that he himself has not a vegetable mind, and consequently has not that trinity in his nature, which makes him the image of God here on earth.

I come next to speak of the other organized bodies I have mentioned, I mean *animals*, whose structure is much more various than that of vegetables, and consequently their operations are so also. And I will begin with the brute animals, which will lead me directly to the subject I am now to consider, viz. the difference betwixt man and brute. But before I come to speak of that, I think it will be proper to explain how these different forms of bodies, by which some are organized some not organized, are produced, and likewise the great difference which we observe in the organized bodies from one another, and also in the unorganized bodies such as minerals; in short to give some account of the production of all the various forms of bodies.

To say that matter of itself, by a *vis insita*, as Sir Isaac Newton expresses it, has produced all these forms, would I think be downright materialism; for it would be giving to matter a power by which the whole material world has been formed.

\* Vol. V. of this work, p. 215.

formed. But there is an antient piece of philosophy preserved to us, (the most antient I believe that is extant), by which this doctrine is explained, and the whole system of the material world put in the clearest light. The work I mean is that of Timaeus the Locrian, *De Anima Mundi*, where he tells us that all bodies are formed of *matter*, or *the materia prima*, as we call it, and of *idea*; so that every Body is composed of a certain quantity of *matter*, which he considers as the *mother* of the body, and of an *idea*, which he considers as the *father*. In this way every Body here on earth is formed: For the *idea*, that is the mind which is in it, both gives it its form and motion, and produces all its different qualities. In this way we have every thing in body, all its different forms, its movements and its qualities, accounted for upon found principles of theism, without the least mixture of materialism; which makes this work of Timaeus a most valuable piece of philosophy, being the best account that is given of the production of the several forms and motions of bodies here on earth, and their different qualities.

I now return to speak of the difference betwixt man and brute. That the brute is not a mere machine, as M. de Buffon, would make him to be, but that he has a mind by which he is prompted to act in different manners, cannot be doubted of by any man, who knows what mind is, and that there is an animal mind, which he himself has, as well as an intellectual mind: And it is from the different operations of this animal mind of the brute that we are to distinguish it from the intellectual mind of man.

There is a book written by a Scotchman of the name of William Smellie, entitled *The Philosophy of Natural History*, and which I believe is one of the best collections extant of the history of the brute animals. He mentions this question concerning the cause which  
produces

produces so many various operations of the brute ; and he tells us that the opinion of M. de Buffon is, that the Brute is a mere machine, and that all his operations, even the operations of the bee, which are so various and appear to be so ingenious, are only results of pure mechanism \*. But this opinion Mr Smellie rejects, and says that the notion that animals are mere machines is too absurd to merit refutation †. And, indeed, if the operations of such an animal as the bee, so various and so connected together as to make a system, or polity, more perfect, as I shall show in the sequel, than any to be found among men, be the result of mere mechanism, the whole system of the universe may be said to be nothing but mechanism also, that is the operation of body upon body. If however I could believe, as Sir Isaac Newton did, that body being once put in motion, could continue to move itself, and in a regular and orderly way ;—and that the bodies of brutes were moved, as he says our bodies are, by aethers and subtile fluids ;—I should be disposed to agree with M. de Buffon, and to suppose that all the motions of the brutes, many and various as they are, were nothing but mere mechanism.

The only other opinion that can be upon this subject, is, that the motions of the brute are produced by the mind of the brute ; and then the question will be, as I have said, whether it be his animal mind that produces these operations, or whether he has not an intellectual mind as well as man ? Now the opinion of Mr Smellie is, that he has such a mind, not so perfect indeed as the intellectual mind of man, but such an intellect as is sufficient to account for all his operations. And this is the idea he gives of what he calls the *instincts of brutes* ‡.

But

\* Smellie, Vol. I. p. 336.

† Ibid. p. 156.

‡ Ibid.

But my opinion is, that the instinct of the brute is of a nature altogether different from intellect; and that, as I have elsewhere said \*, it is nothing else but a determination of the mind of the brute, which the wisdom and goodness of God has bestowed upon it, to act in a certain manner on certain occasions and in certain circumstances, without knowing any thing of the reasons for which it acts, or having any thing like what we call *will* or *free-will* in man, which is intirely the result of intellect. For, in the first place, the man who determines to act, must have an idea of the action that he is to perform: And, 2dly, He must have formed an opinion that the action, if he performs it, will be productive of *good* to him; and when he has formed that opinion, then he *wills* to perform the action. Now to maintain that brutes form opinions concerning what is *good* or *ill*, and act in consequence of those opinions, is to deny that there is any distinction betwixt man and brute, and to hold that man is not the only animal of intelligence upon this earth, nor is thereby distinguished from all the other animals of the earth: And particularly it is his operation of *willing*, which makes him so different from other animals, and is so essential to his nature, that, as I have said elsewhere, if God were to take from him that faculty, it would be in effect to annihilate him as an intelligent animal; for he would be no longer a man but a brute.

And in this manner I think I have demonstrated, that as the brute does not form opinions of what is *good* or *ill*, as man does, he is not therefore guided by intellect as man is, but by what is called instinct; which directs him to do what is best for him, but without his knowing for what end or purpose he acts.

As the brute has not intelligence, he wants also another thing,  
which,

\* In Vol. II. Book IV. Chap. VI.

which, as I have observed elfewhere \*, belongs to man, and is the foundation of all his knowledge, even of the knowledge of his own exiftence: And that is *confcioufnefs* of what he does; by which Des Cartes knew that he exifted; “For,” fays he, “I think: Therefore “I am †.”—Now the brute, wanting that confcioufnefs, does not know that he, himfelf, exifts.

By what I have faid of the brutes aëting only by inftinët, while man aëts by intelligence, I muft not be underftood to mean, that man does not likewise aët by inftinët upon certain occafions; or in other words, that he does not aët, on fuch occafions, without forming any opinion concerning the aëtion, whether it be good or ill. For man after his fall was no more than a mere animal, with fenfations only, but without intelleët, which he acquires, as I have frown, by the means of civil fociety. But even after that acquifition, he is ftill an animal, and therefore it is natural, and indeed neceffary, that he fhould, upon certain occafions, aët as a mere animal, that is be moved only by inftinët, without deliberating or forming any opinion whether what he is to do be good or ill. In this way he eats when he is hungry, drinks when he is thirfty, refts when he is weary, and avoids any imminent danger from fire, water, or precipices: And as in many fuch cafes there is no time for any deliberation, it fhows the wifdom and goodnefs of God, that he has fo framed man, that he can aët by inftinët as other animals do, without forming any opinion of what is *good* or *ill*.

Thus I think I have frown that there is an efferential difference betwixt intelleët and inftinët; and that man, though he have inftinët as well as the brute, is nevertheless the only animal of intelligence on this earth.

But

\* Vol. II. p 97.

† See pp. 108 and 115 of this Vol.



But things are so connected together and the universe is so perfect a system, that there is no gap or interval in it, things running into one another, like shades of different colours. Even things the most different in their nature, are in this way connected together: Thus animals and vegetables run together, and make what is called a zoophyte, of which we have an example, as I have observed\*, in the coral, which is mixed of the animal and vegetable. And there are two kinds of animals, which we should think so distinct and so different altogether from one another, that it could hardly be conceived how they should be joined together; I mean the fish that swims and lives in the water, and the bird which flies and lives in the air or on the earth: And yet they are joined together in the *flying-fish*. In the same manner intellect and instinct are joined together, as we have seen in man; and in some of the brute animals they run together and are so joined, that, though their intellect be far from being perfect, yet it is a great deal more than common instinct. Of this kind of animal is the elephant, who in every respect is the first of the brute-kind; for in size and strength of body he far exceeds all the other animals on this earth, and also in the qualities of the mind, and particularly in sagacity and what may be called natural parts. Upon the subject of the elephant Mr Smellie has said a great deal, beginning with p. 441; and I think he has proved him to be a most extraordinary brute. In India he is very often domesticated, and is truly a servant to the family, performing the most laborious offices, and carrying the greatest weights, not only by land, but by water; for he can swim as well as walk. He appears to have what may be called ideas of particular objects, which, as I have elsewhere said, were the first ideas that men formed: And therefore he readily distinguishes one man from another, and any particular piece of work, that he is enjoined to perform, from any other: For, like any other servant, he gets orders to perform such a

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\* See p. 113 of this Vol.



piece of work ; and these orders he understands, partly by signs, or by words, which he has been accustomed to hear, as applied to particular works. And if the work is of great exertion, they promise him a certain quantity of spirits, as a reward for his labour : For the Indians understand distillation as well as we do, and I believe had the practice of it before us, as well as of many other arts. But they make a much better use of spirits than we do ; for they do not drink them, nor indeed any other strong liquors, but give them to their elephants, to encourage them to work ; and if they promise them to an elephant, and do not give them, they are in great hazard from his resentment.

And thus I think it may be said, that the elephant has some degree of intelligence, which enables him to perform the duty of a common servant. And not only has he so much of the intelligence of man, but he has the dispositions, the affections, and the passions of men : For he has great love and affection for his keeper, who furnishes him all the necessities of life ; and if any other person, though not belonging to the family, do him any good office, he is sensible of it, and may be said to have gratitude for it ; and it is observed, that, if he has been well treated in any house, he will, in passing the house \*, bow his head as an acknowledgment of the favour he has received. He has also, as I have observed, resentment of any injury that is done him, such as breaking a promise made to him.

We have in this country a domesticated animal, which, for his sagacity and his attachment to his master, Mr Smellie considers as the next animal to the elephant ; I mean the dog †. He is so well known, that I think it is needless to say any thing of him here,

as

\* Vol. I. p. 449.

† Ibid. p. 450.

as Mr Smellie has told some surprising stories of him. I will only add to what he has said, that, if he were not so common an animal among us, and were but newly brought to this country, we should think him a most extraordinary animal: He has a great attachment to our species; so great, that he may be said to be our friend and companion; nor is there any example of so great an attachment betwixt two animals of specieses so different. Our favourite dog loves us so much, that he is jealous of any other dog whom we seem to favour; and for no other reason will fall upon him and bite him. I cannot however think that he has near so much either of the intelligence of man, or of his dispositions and affections, as the elephant.

Thus it appears that some of the brute animals, such as elephants and dogs, have perceptions of particular objects of sense, so distinct, that they may be said to have something like ideas of them, but not such ideas as we form: For these ideas, as I have described them in a preceding volume, are truly, as I have said in more than one place, systems, even our ideas of particular things; for in forming these ideas, we distinguish what is principal in the thing, and separate it from what it has in common with other things. But what chiefly distinguishes the operations of the mind of the brute from those of the intellectual mind of man, is, that the brute has only ideas (if we will call them so) of particular objects of sense, but no general ideas. He has therefore no knowledge of *the one in the many*; which is the proper definition of a general idea, by which the mind forms *one* idea of many things agreeing together in one essential quality however they may differ in other things. In this way he arranges things in different systems or classes, which we call genuses or specieses: And it is in this way that intellect is essentially distinguished from the senses; for these perceive only particular objects, whereas the intellect, and the intellect only, compares

pare these objects, finds out that they agree in one principal thing, of that forms the general idea, and perceives *the one in the many*. Now of this the brute is absolutely incapable; and any use, that he can be said to have of intellect, is confined intirely to particular objects of sense: And even of these he cannot, as I have shown, form what can be truly called an idea; but by his senses he gets a very accurate and distinct perception of them, which is abundantly sufficient for the purposes of his animal life, and makes him at the same time very useful to man, who by that means reaps great profit from the dominion which God has been pleased to give him over the animals of this earth. How much he profits by that dominion, is evident from the example of these barbarous nations, such as the savages of North America, who, though they kill and feed upon many animals, make no use of them in the operations they carry on.

Of the progress of man in forming general ideas, and how he proceeds from the less general to the more general, till at last he perceives not only *the one in the many* and *in very many*, but the *one in all*, that is God, the author of all, I have spoken elsewhere at some length. Here it will be sufficient to observe, that as the brute cannot form general ideas, he is quite incapable of science, which is founded upon general ideas and cannot exist without them. He is also incapable even of arts; for, though some brutes, such as the bees, practice wonderful arts, of some of which I shall speak in the sequel, yet as they have no general ideas, they can have no knowledge of the principles of the art, nor indeed know what art is. They may indeed be taught some arts by man, and by assiduous practice form them into habit; but still they do not know what that art, or what any art, is.

Thus I think I have shown the distinction betwixt intelligence  
and

and instinct, and consequently the distinction betwixt man and brute; and that, though the instinct of some brutes be so perfect that it produces the effects of intelligence, yet it is truly not intelligence but a principle of action quite different, yet so resembling the operations of intelligence, that it is no wonder that Mr Smellie has confounded it with intelligence.

Before I leave this subject I think it is proper to observe that Aristotle appears to give intelligence to the brute, when he defines man to be, in his natural state, *ζῶον λογικόν, νοῦ καὶ ἐπιστήμης δεκτικόν*: So that, according to Aristotle, man is a *logical* animal before he is in possession of intellect and science and when he has only the capacity of acquiring them. But we must distinguish betwixt *logical* and *intellectual*; a distinction, which is not commonly made even by philosophers in this age; for they say that man is a *rational* animal, meaning that he is an *intellectual* animal. But those two are very different; and accordingly the brute (at least the better kinds of them) is a *rational* animal but not *intellectual*; and this is a distinction which requires to be explained to those who have not studied the antient philosophy.

*Λογος* in Greek and *ratio* in Latin, which denote the same thing, are never applied to *one* thing only, but to *two* or *more* things, agreeing or differing in certain qualities; which when the mind perceives, it knows the *Λογος* or *ratio* that those things have to one another: And the animal who is capable of that perception, is said to be a *logical* or *rational* animal. And such was man before he acquired the use of intellect; and such at this day are all the better kinds of brutes: For a brute of that kind could not carry on the business of his life, if he did not perceive the different qualities of objects, and in that way distinguish things that had certain qualities from other things that had them not or had different qualities. An  
animal,

animal, if he wanted that discernment, could not distinguish what was proper for his nourishment, or for his ease and convenience, from what was not proper ; but being taught by instinct to know that, by his logical or rational faculties he distinguishes the things that have those qualities from those that have them not : So that, unless he were a rational or logical animal having the faculty of comparison, he could not subsist. And it may be observed not only that the brute perceives this likeness or difference of two or more objects when they are present to the senses ; but when only one of them is present he can compare that one with the perception or sensation of the other that he has retained in his phantasia, a faculty, which preserves the object in his mind ; so that he perceives it as if it were actually present \*.

It may be asked, in what then consists the difference betwixt the logical or rational animal and the intellectual ? And I say it is in this, that the *rational* animal only perceives the likenesses or difference of things ; but what makes them *alike* or different, he does not perceive : Whereas the intellect perceives those qualities, which make the things agree or differ from one another. In short the intellect perceives the nature of the things, such as is contained in the definition that we give of any thing.

And thus I hope I have shown to the satisfaction of the reader the difference betwixt the intelligence of man and that rational faculty of the brute, by which he compares things together and discovers their likenesses or difference, without which the economy of his life could not be carried on ; for, if he had only the simple perception of objects by his senses, without being able to compare them, and without perceiving their likenesses and differences, he  
could

\* On the subject of the phantasia, and the great utility of it in the economy of the animal life, see Vols. I. p. 90. and II. p. 232. of this work.



could not subsist. And if the brute have not that intelligence which discovers to man the nature of the thing, and so enables him to form the idea of any thing, much less has he the faculty of science, by which ideas are compared together; so that the way in which Aristotle has distinguished a logical animal, such as he says man is, by *the capacity of intellect and science*, is perfectly just, and shows that he understood compleatly the difference betwixt man even in his natural state and the other animals of this earth.

The reader may be surpris'd that I should have detained him so long here upon the difference betwixt man and brute, when I have said so much upon that subject in the IV. Vol. of this work, p. 14 and following, and more still in the V. Vol. Book III. Chap. XV. But he should consider that no person can know what man is, that is what he himself is, if he do not know the difference betwixt man and brute, and what distinguishes the governing animal on this earth from any other animal. The accurate knowledge therefore of this difference I think is a principal part of the knowledge of man. By what I have added here to the passages above quoted I hope I have said enough to correct the common error, that intelligence and rationality are the same, and that, because the brute is not an intelligent animal, therefore he is not rational.



## C H A P. II.

*Of the Brute Nature, and its Variety:—He is Solitary, Gregarious, and Political.—Comparison of the Life of the Brute with that of Man in Civil Society.—Vindication of Providence with respect to the destruction of Brute Animals by one another.—Vegetables the first food of Man—Then their Fruits, such as Barley and Wheat:—These first discovered and cultivated in Egypt,—and the art of Cultivating them carried to other countries.—Next came the Flesh diet—first those animals caught by hunting; then tamed and domesticated animals.—Agreement of the Author's Opinion with that of Porphyry and Moses.—Animal Food necessary from the Multiplication of Men.—The Vegetable diet more wholesome.—Water the natural drink of all Animals—but, as the drink of Man in Civil Society, it is improved by a mixture of Wine, in the opinion of Solomon.—The Flesh diet less hurtful by being mixed with Vegetables.*

**H**AVING shown the difference betwixt Man and Brute, I proceed now to treat of Brutes in particular, to show their various natures, and how they differ from one another as well as from Man.

The brutes may be said to live in all the three different ways in which men live; for they live either solitary, as the wild beasts or beasts of prey do; or they live in herds, as sheep, oxen, deer, and horses do in their natural state, in which state the last are in the plains

plains of Tartary ; or, lastly, they live in a political state, which may be called their civil society : And it is in this last way that Bees, Ants, and Beavers live\*. But in whichever of these ways the brute lives, he lives in the way that God and Nature has appointed he should live ;—a way very different from that in which men in civil society live ; for, as man has made for himself a new nature, different from that which God bestowed upon him, so he has also made to himself a new way of living, different from that in which he was destined by God and Nature to live and in which the antedeluvians lived, who lived each of them several hundred years without being liable to any disease as far as we know, and different likewise from the manner of life of the savage nations at this day. The unnatural life I mean the reader will understand to be that in which houses and clothes are used ;—for food, fish and flesh ;—and for drink, wine and strong liquors of different kinds and even spirits. Such a life, so different from the natural life of man, must necessarily produce many diseases and much weakness and shortness of life : And, as these are increasing in every generation, I am more and more convinced of what I have maintained in a preceding volume of this work †, that there will be an end of the human species in the civilized nations of Europe in not very many generations ; and indeed it would be contrary to Nature and to the order of things in the universe, if, in a way of living so different from that which God and Nature has appointed, the race of man should last for any very long time.

How different the life of the brutes is, who live in the natural state and not housed nor under the dominion of men, is well known. There is one race of them who live upon flesh, I mean the beasts of prey ; which, we should think, was an objection to the goodness of God, who has produced animals that cannot live with-

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\* Of the polity of the Beaver, see Vol. III. p. 54.

† Vol. V. Chap. last.

out the destruction of other animals. But we should consider that a system, so perfect as that of the universe, must be compleat, and have every thing in it that is possible to exist but which does not tend to the destruction of the system. Now, if there had not been animals that fed upon the flesh of other animals as well as upon the fruits of the earth, the system would have been defective, and wanting that variety (which must be in every perfect system) of animals feeding upon the flesh of other animals, as well of those that feed upon the fruits of the earth. And I say further, that as the increase of animals on this earth is so great that all the fruits of the earth could not maintain them, it is proper that these other animals should die before their time ; and it is better that by their death they should support other animals, than that they should die of old age or accidents. If indeed all the animals, that are destined for the food of other animals, were to be thereby destroyed, and the species of them annihilated, it would certainly be an imperfection in the system. But that is not the case : For the beasts of prey are but few in number ; whereas the animals, they feed upon, are very numerous, and, I am persuaded, would multiply too fast if they were not fed upon by the wild beasts. The country of India is a proof that the specieses of beasts, which the carnivorous animals feed upon, are not thereby annihilated nor even decreased in number more than in other countries : There the animals live more in the natural state than in any country in Europe ; for the Indians neither hunt, nor eat flesh, nor kill any animals except a few kids for sacrifice. And in Britain there is one animal which is not only the prey of carnivorous animals, such as the fox, but of man, more than any other wild animal ; I mean the hare : And yet the race of hares does not appear to be in any hazard of being extinguished ; though so many ways are used by men to destroy them, that they are taken under the protection of the law.

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But the greatest destruction of the brute creation on this earth is by man for food ; and this leads me to speak at some length of the food of man, which is very different in the different states through which he has passed. In his first state upon this earth, when he was a quadruped and walked upon *all-four*, (the state in which Peter the *wild boy* was found in the woods of Hanover, the most curious discovery, as to the human race, that has been made in this age \*), it was of absolute necessity, as I have observed elsewhere †, that he should feed upon the herbs and roots which the earth produced, and not upon the fruits of trees. That was first practised by the Arcadians, who were a most antient people, so antient that they said they were more antient than the moon, being *προσεληνοί*, as they called themselves ; for they were taught, by their king Pelasgus, to feed upon acorns. This is a curious fact in the history of man, which Pausanias has preserved to us, (Lib. VIII. Cap. I.) ; and it is a step in the human progress, the memory of which appears to have been preserved only among these very antient people ‡.

Before the invention of corn, Diodorus Siculus tells us, that the Egyptians ate grass and roots that grew in the rivers and marshes, particularly an herb called *agrostis*, with which they fattened cattle in later times ; and that they continued to feed in that way till Isis taught them the use of a better herb for food, I mean the *lotus*, which grows in the river. Diodorus adds, that even in his own time, the children in Egypt fed upon reeds and other aquatic plants which grew in the river and marshes § :

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Arrian

\* See upon this subject of *Peter the wild boy*, at great length, Vol. III. of this work, p. 57 and following.

† Vol. IV. p. 39.

‡ See Vol. IV. of this work, p. 39.

§ Vol. III. of this Work, p. 375.

Arrian informs us, that the Indians, before they were civilized and taught arts by Osiris, or Bacchus as the Greeks called him, fed upon the barks of trees\*: We are informed by Captain King †, that the natives of Kamschatka do at this day make food of the bark of the *birch tree* ‡: Appian in his Lybian History relates that the Numidians fed upon grafs, when they could get nothing else: And Herodotus says, that those of Xerxes's army, who escaped out of Greece, in their way through Thrace, fed upon grafs.

It is therefore I think evident that the first food of men upon this earth was wild herbs and their roots, then the fruits of trees, and particularly acorns.

But the wild herbs that grow commonly in the fields, though they be a very proper nourishment for brute animals, are not a proper nourishment for the chief animal on this earth, man; nor, if they were, is there a sufficient quantity of them for maintaining man and the other animals of this earth: For men in the first ages of society increased so much, that, as I have elsewhere observed §, almost the whole history of man in those first ages consists of his migrations from countries, the produce of which could not maintain him, to other countries where he could subsist; and even in later times that famous migration of the Teutons and Cimbers from the northern parts of Europe and Asia into the Roman empire, and, in later times still, that of the Goths and Vandals, were both caused, as I have elsewhere observed ||, by these nations not being able to live upon the fruits which their own country produced.

\* Vol. III. of this work, p. 375.

† Vol. III. of Cooke's last voyage, p. 333.

‡ Vol. III. of Antient Metaphysics, p. 376.

§ Vol. V. p. 243.

|| Ibid. p. 245. and Origin and Progress of Language, Vol. V. p. 93.



duced. Things therefore were come to the situation mentioned by Virgil,

— — — — — cum jam glandes atque arbuta sacrae  
Deficerent fylvae, et victum Dodona negaret.

GEORGIC. Lib. I. v. 148.

And it was then proper that some herbs of a better kind should be discovered, upon the seeds of which men might live.

This discovery was made in Egypt, which, as it enjoys such advantages of climate, soil, and so fine a river, is, by its nature, the most fruitful country, I believe, in the world. Of the herbs discovered in Egypt I have spoken at some length in Vol. IV. of this work \*, where I have shown that the Egyptians not only discovered and cultivated wheat and barley, but a finer grain than either, which they called *zea*, and the Greeks *οζυς*. It was a grain so much finer than either wheat or barley, that the better sort of people would eat the bread made of it only. These plants must have been the natural growth of the country, and for any thing we know, of that country only : So that to Egypt we not only owe the art of agriculture, but the materials which it employs : For I have shown, in the passage above quoted, that the seeds of these plants were brought from Egypt to other countries; first to Greece, and then to other parts of the world, and particularly to Italy, where the Egyptian *zea* was cultivated, and produced that grain which the Romans called *far*. And the Egyptians, as I have said, taught us not only to make *food* of the grains I have mentioned, but also *drink* of them as well as of the juice of the grape : So that the Egyptians invented not only the art of agriculture, and of making bread, but also the art of *fermentation*, and likewise of *malting*, by which they made *ale* or *beer* of their grain.

But

\* Book II. Chap. IV.



But after agriculture was invented in Egypt, it must have been a long time before the art was propagated to the many different nations of the earth ; while in the meantime it was necessary that men should have some other way of living than upon the natural fruits of the earth. Now this could only be by the flesh of animals, which they killed by hunting : And accordingly we are assured that many nations in antient times subsisted in that way ; and several do so at present, such as the Indians of North America, who practice very little agriculture, but live almost intirely by hunting and fishing.

The first animals, that men fed upon, were those they killed in these ways : For at first I am persuaded they did not feed upon animals that they housed, nor collect them for the purpose of making food of them. Even at this day the Tartars, who live intirely by hunting, use, for food, no animals which they have tamed or domesticated : For they say it would be contrary to the laws of hospitality, to kill an animal for food which you have taken under your roof ; and, though they sometimes eat their horses, it is nothing but extreme necessity which makes them do so.

Thus I think I have proved, that it was necessity that drove men to use the unnatural food of flesh ; and it was the failure of the natural fruits of the earth, which, by the great multiplication of men, became not able to support them and the other animals of this earth : For though in Egypt the invention of corn and of the art of agriculture did supply men with provisions, yet as that art could only be slowly propagated to other countries, it is evident that those other countries must have been obliged to supply the want of food by killing animals and eating them, till they had learned the art of agriculture. In this opinion I am glad to be supported by so eminent a philosopher of the Alexandrian school as Porphyry, in his learned work *De Abstinencia*. It was the same necessity that made  
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the Greeks use a food, which appears still more unnatural, as it comes not from the earth, but from another element; I mean *fish*, which Homer tells us \*, the crew of Ulysses's ship were obliged to kill and eat for want of other food.

And this necessity of eating flesh may serve to explain to us what we read in scripture. When man was created, though he got dominion over all the animals in the sea, in the air, and on the earth, we are told that he got for food only the herbs bearing seed and the fruit of trees, (Gen. Chap. I. v. 28 and 29); while in the next verse God gives to the beasts of the earth and the fowls of the air every green herb for meat: So that here a difference is made betwixt the food of man and of brutes; for man gets for food every herb bearing seed and every tree of which the fruit yields seed; whereas the beasts get for food only green herbs. But after the flood God gives to Noah and his family for food every moving thing that liveth; *even as the green herb, have I given you all things* †. And, as in the preceding verse, he had given into their hands not only the beasts of the earth and the fowls of the air, but the fishes of the sea, I think it is evident that he gave them for food *fish* as well as *flesh*; only the *blood*, which, it is said, is the *life* of the animal, they are forbidden to eat ‡. Now it appears that immediately after the flood, when by it the natural fruits of the earth were destroyed, and when there was no time for raising corn by cultivation, it was necessary that man should be supported by eating both flesh and fish. And in this way I think the difference, betwixt the diet prescribed to man after his creation and that now allowed him after the flood, may be accounted for.

But even after agriculture was invented and practised by many nations,

\* Odyssey XII. v. 331.

† Genesis, Chap. IX. v. 3.

‡ Ibid. v. 4.

nations, men multiplied so very fast, that they could not be maintained, neither by the natural fruits of the earth nor by those which agriculture produced, without the use of both flesh and fish. In Egypt I think it was impossible that the wonderful numbers of men there could have been maintained, even in that most fruitful country upon the grain produced in it by agriculture, without using for food both the fish that the river afforded and the land animals. Even in later times, when we hear of men multiplying so fast in some nations, particularly in Latium, where the Romans, before their state was 500 years old, sent out 30 colonies\*, I think the people must have fed, not only upon corn, but upon the animals which their country and its rivers produced: And in general the multiplication of men in those first ages of civil society was so great, that the fruits of the earth could not support them without feeding upon animals.

By what I have said here I do not mean to retract what I have elsewhere maintained, that the natural food of man, and consequently the most wholesome, is the fruits of the earth not flesh or fish: And I think a demonstrative proof of this is, that we recover our health by the vegetable diet, which we could not have done, if we had continued to feed upon flesh. Now what will recover health, when it is lost, is certainly more proper for preserving it than any other diet.

And here an objection may be made to the wisdom and goodness of God, That man, the noblest animal, and the governing animal, on this earth, should be reduced to the necessity of eating a food, which is not natural to him and which of consequence must be hurtful to his health and must tend to shorten his life. But to this I answer, that, the first commandment given to man was to increase and multi-

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\* Vol. V. p. 266.

ply; and accordingly he has increased and multiplied so much, that we do not hear of any part of the earth, not even an island in the great ocean, of any size, that is not more or less peopled. In Europe we have an island, I mean Iceland, and a great country, viz. Greenland, which is still more than Iceland, *extra armi solisque vias*; and yet both are peopled. And indeed it appears evidently to be the design of Providence, that every part of the earth should be peopled, and that men should have an opportunity every where of forming themselves into societies, and thereby acquiring the use of intellect, and so making some progress towards regaining their prior state. But without altering the nature of things, which, as I have said in more than one place, it is impossible that even God can do, the earth could not have produced in every country, which men were to inhabit, the most natural and best food for men: So that it was of absolute necessity that they should have such food only as the country afforded; and, where it could not give them the best food, such as corn, that they should be contented to eat flesh or fish, or what else the country produced that man can live upon; and, even in Egypt, where corn was raised in the greatest plenty, yet, as I have shown, men multiplied so much, that they were obliged to eat both fish and flesh, and, besides, to bring up their children upon the reeds which grew in the river.

I continue therefore still of opinion that the most natural and the best food of man is the herbs, and the seeds of herbs, produced by the earth; and that in every country, where that food can be got, it should be used and only used by man. As to drink, the natural drink of man, and of all other animals, is water. I hold, however, that water without wine is not good, nor wine without water; an opinion, in which I am supported, if not by canonical Scripture, at least by Apocrypha\*: For a mixture of wine certainly cures the raw-

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\* II Maccabees, v. last.

ness of water, and makes it more agreeable both to the taste and to the stomach. But the quantity of wine mixed with water should be small, not above a third or a fourth of the water if the wine be strong: And if wine cannot be got, I think the Egyptian drink, Beer, is neither an unwholesome nor an unpleasant drink; but it should be small beer, which, if it be good, is, I think, the best of all malt liquors. And thus far as to his drink I think a man may comply with the common fashion of living. If he has a mind to carry his compliance with that fashion further, so as to eat flesh or fish, it should be in great moderation: And he should always eat flesh with vegetables, so as to use the flesh for the purpose only, as I have said elsewhere, of giving them a relish; and the more vegetables he eats with his flesh, so much the better. In this respect Scotch broth I hold to be the best way of eating flesh; for with the juice of beef or mutton, which is boiled in the broth, you eat barley, turnips, carrots, and onions, to which you may add also greens. And therefore I hold that this broth is the best way of eating flesh, much better than in *soup*: For in soup you have the juice of the flesh; and if it be what is commonly called *strong soup*, that is strong of the flesh, you eat in it more flesh, than when you eat flesh boiled or roasted. Your fish also will be much the better and more wholesome, if you eat them with vegetables likewise.

CHAP.



## C H A P. III.

*Comparison of the Happiness of Man and Brute.—Man, in the Civilized Life, liable to many Diseases and Weaknesses:—These the Brute free of.—He enjoys the Pleasures of Sense in a higher degree; and also certain Pleasures of Mind.—The Imperfection of our Intellect the Cause of our Misery:—The Brute, guided by Instinct, as happy as his Nature will admit.—Man, by a proper use of his Intellect, may enjoy much greater Happiness than the Brute.—The Instinct of the Political Animals, wonderful—such as the Bee.—Account of the Polity of the Bee, from Xenophon—and of the Ants and Swallows from Simplicius.—Reason for the Political Life of these Animals.—Of the Pairing of Birds, particularly Swallows.—Instances of the Instinct of Dogs, and of their care of their Offspring.—The Increase of the Number of Fishes by propagation, astonishing.—Conclusion, that the Animal Life of the Brute is much happier than the Animal Life of Man.—Praise of Derham's Physico-Theology, in insisting so much on Final Causes, and thereby demonstrating the Goodness of God.*

**H**AVING said so much of the natures of men and brutes and of their different ways of living, I think it will be proper to compare them in point of happiness.

The consequence of our unnatural way of living is, that we are liable to many diseases and weaknesses, which are daily increasing,



and consuming the species : And these diseases and weaknesses go to our children, and destroy so many of them, when they are infants and could not have acquired any diseases themselves, that I do not believe a fourth part, of those that are born, live to be men and women ; though I hold that man, as he is superior to other animals of this earth in many respects, is so also in strength of constitution, of which I have given (Vol. IV. p. 52.) a proof that is not commonly attended to. There however I have only spoken of the life of the rich and luxurious in towns ; but the way of living of all the people in Europe, rich and poor, shows a strength of constitution much superior to that of the brute, though it has not been attended to. What I mean is the cloaths we wear, by which we are deprived of the free use of the air, the element in which we live, and without which we could not live a few minutes : For other things, such as meat and drink, we use only occasionally and at certain times. but, we live in the air, as fish do in the water ; we must therefore use it constantly and in every way in which by nature it can be used. Now a man, that is clothed, takes in the air only by his mouth and nostrils ; but nature has appointed that he should take it in also by the absorbing vessels of his skin : This however is prevented by his cloaths ; by which not only the pure air of the atmosphere is hindered from being taken in by the skin, but the filth of his own body, thrown out by perspiration, and which is more than what he throws out by stool or urine, is kept about him ; so that he lives in the filth of his own body, and must necessarily take in again a great part of it. But of this I have spoken at great length in other parts of this work \*. I will only add here, that the life of the brute, in his natural state, is in this respect altogether different : For, not being clothed nor even housed, he takes in not only by his mouth and nostrils, but by his skin, the pure atmosphere ; and the filth, which he throws out from his skin by his perspiring vessels, is carried

\* Vol. V. p. 19.

carried off by the wind or the air. Now this makes such a difference in the way of living of these two animals, that man, who can live for any number of years in so unnatural a way, must have a strength of constitution very much superior to the brute.

As to the brutes, who live in the natural state and not under the dominion of men, they are not I believe liable to any diseases, not even to those pestilential diseases which we call *Plagues*, that destroy so many men. Under the reign of Justinian the Emperor there were so many plagues, that it was said they destroyed one half of the human species in the countries where they raged; yet we do not hear of any of the brutes dying of them\*. It is evident therefore that the brutes, which are in the natural state, enjoy that greatest blessing of our life in this world and the foundation of every other, I mean health, much more than we do.

As to the pleasures of sense, such as eating, drinking, and coition, the brutes in the natural state enjoy them more than we do, because they enjoy them in a more natural way. Nor do they want the pleasures of the mind: For they have great pleasure in nursing and rearing their offspring; and the herding animals, besides the delight they have in living with their herds, have certain attachments to particular animals, which give them a great deal of pleasure. The dog, besides the natural attachment he has to his own species, has an attachment to man, such as is not to be found betwixt any other animals of specieses so different as those of man and dog: And he is most useful to us; for he is the guardian of our house, and of our flocks and herds: And he may be called our companion; nor do I think it is improperly said by Homer, "that Telemachus " was not alone; for he had two dogs with him †."

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\* See Vol. III. of this work, p. 185, &c.

† Odyss. II. v. 11.

It may seem surprizing that we, who not only have the use of all the senses that the brutes have, but have intellect besides, which they have not, and likewise the enjoyment of every thing that the earth produces, and dominion over all the other animals of this earth, should not be happier than those other animals; and particularly that we should not enjoy health, the greatest blessing, as I have said, here below, and the foundation of every other. But intellect, which one should think so great an advantage that we have over other animals, is the reason why we are less happy: For our intellect, being imperfect, forms false judgments concerning happiness; and it is by intellect that we are governed, as it is essential to man, as an intelligent creature, that he should be so governed. Now, as I have already observed \*, his intellect operates by what is called his *will*; and he wills a thing, because he has formed an opinion that it is good. But in this opinion he is very often deceived; for he imagines a thing to be good, because it gives him pleasure: Whereas, if his intellect were more perfect, he would know that it is not pleasure that makes a thing good; but, on the contrary, that a thing may give pleasure for the present, which, so far from being good, produces a great deal of evil: For pleasure is not the end, but only the means, which providence employs to excite us to pursue what is good. Now there is nothing good with respect to animals, but what conduces to the well-being of the individual and to the continuation of the race; and it is to our energies, for those two purposes, that the wisdom and goodness of God has annexed pleasure. But by a wrong use of our intellect we form an opinion that pleasures of sense are our good: And accordingly the use, we make of our senses, is to enjoy as much sensual pleasure as we possibly can, without regard to the end for which those pleasures are intended, that is, as I have said, the well-being of the individual and the continuation of the race. Now the brute, as he

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\* P. 287.

has not intellect, and consequently no ideas of what is good or ill, has no opinions of any kind, but is guided, in all his actions and pursuits, by what is called *instinct*: And that, as I have shown in the preceding chapter, is a propensity, which the wisdom and goodness of God have given to his mind, by which he is excited to do every thing that is proper for the preservation of the individual and the continuation of the race; for which purposes some of the brutes perform wonderful works of art, of which I shall speak in the sequel. The difference therefore betwixt man and brute comes to this, that man is guided by his own imperfect intelligence, while the brute is guided by Divine wisdom and goodness, which have so formed his mind, that upon every occasion it acts for the two purposes above mentioned: For I am not of opinion that the brute is immediately and directly moved, by the Deity, to perform what we see him do; but I hold that his mind is so formed that it moves him to do all those things that we admire so much, when it is proper he should do them, and so to make himself as happy as his nature will admit.

In this way therefore I think I have accounted how sensual pleasures make the brute so much happier than man; though even in these a man might excel the brute, having so much more power, if he made a proper use of his intellect: And when to that we join the pleasures which intellect affords, by the means of arts, sciences, and philosophy, I think we may pronounce with great certainty, that even on this earth God has given the chief animal here below the power of making himself very much happier than any brute. And if to arts, sciences, and philosophy he joins religion, (without which there can be no perfect philosophy), which assures him that if he lives as he ought to do in this life, he will be much happier in the next, he may be said to be as happy as an animal

mal of an imperfect intellect, in this state of trial and probation, can possibly be.

With respect to the brute, as he has no intellect, his chief enjoyment must be the pleasures of sense. But as he enjoys them in a more natural way than we do, they have not that effect upon his health which they have upon ours. The rich among us provoke their appetites to eat by *high sauces* and *made dishes*: And even the poorest among us use one of the *irritamenta gulæ*, I mean *salt*, which makes men both eat and drink more than they would otherwise do; for which reason I think it is very properly not used by the North American Indians, who ascribe to the use of it many diseases that we are liable to.

As eating is one of the chief pleasures the brute enjoys, Nature has so ordered it, that with him it is a pleasure that lasts very long; for he consumes a great deal of time in the enjoyment of it. The animals we use, such as horses and oxen, may be said to spend all their time in eating, drinking, and sleeping, except when we make them work for us; and those, who live in the natural state, and not under our government, appear to do nothing but to eat, drink, and sleep, except what time they may employ in begetting and rearing their young. And, as I have elsewhere observed\*, besides the pleasures of sense, which the brutes enjoy, the herding animals among them have likewise a pleasure in society, which is the natural consequence of their being gregarious.

But, though the brute have commonly more enjoyment of the pleasures of sense than we have, he has not intelligence, which, if rightly used, gives us pleasure much superior to any that the brute can enjoy. And even the pleasures of sense, if properly conducted

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\* P. 305.



by intelligence, will give us greater happiness than they can give the brute : And they may make even the evils of this life an advantage to us ; for, as our life here is a life of trial and probation, it is liable to many evils, some natural, such as earthquakes, inundations, eruptions of burning mountains, pestilential diseases and famine, and many more arising from the crimes, the vices, and the follies of the men with whom we live. But even these will improve our intellect, if we bear them as we ought to do : And our own vices and follies, if we sincerely repent of them, will improve our understanding, by convincing us that there can be no happiness without virtue and religion ; so that even these last mentioned evils, the greatest that can befall us in this life, have a tendency to improve our minds, and to prepare us for enjoying happiness in the life to come. Even the arts which we have invented and practised for gratifying those vices and follies, are an exercise to the intellect ; which is of some consequence to an animal, who had lost the use of that faculty, and can only acquire it, as I have shown, by exercise and practice. Upon the whole, therefore, I think the civilized life, with all the evils which accompany it, is the best life that could be devised for enabling us to make some progress towards regaining our former state.

And thus much may suffice in a work of this kind, with respect to the two first classes of brute animals I mentioned, the solitary and the gregarious. I come now to treat of the last class and the most wonderful of any, those I call *political*, as living in a polity governed by certain laws. In them that grand principle of the brute creation, which we call instinct, and which, as I have said, is the governing principle in brutes, as intellect is in us, shows itself most wonderfully. The only animals of this kind that I shall mention are the Bees, the Ants, and the Swallows. The bees are not only a most wonderful animal, though so common among us that they are

to be ſeen almoſt in every garden, but at the ſame time a moſt uſeful animal ; for the honey they produce,

———Aërii mellis coeleſtia dona,

as Virgil calls it, is a moſt delicious *ſweetmeat*, and when joined with the milk of the cow made into butter, is in my opinion the fineſt of all human food ; ſo fine, that the Prophet Iſaiah could deſcribe nothing finer for the food of the Meſſiah ; and accordingly he has propheciéd, ‘*That butter and honey he ſhall eat.*’ Nor do I think that there could be a greater praiſe of a country, as abounding with the fineſt food for man, than what was ſaid of the land of Canaan, ‘*that it flowed with milk and honey.*’ What the bees extract from the flower of the plant muſt be ſomething much finer than either its ſtem or even its ſeed, and may be ſaid to be its *quinteſſence*. Upon this the bees not only feed during the ſummer, but collect it and lay it up in ſtore for the winter ; and for that purpoſe they muſt make certain ſtore-houſes that we call *combs*, the materials of which, that is *wax*, they collect, as well as the honey, from plants. The combs are divided into ſmall cells of an hexagonal figure, which join together ſo exactly that they make but one piece of comb, and are ſo contrived, that with the ſmalleſt expence of wax the greateſt quantity poſſible of honey is contained. Both the honey and the wax come, as I have ſaid, from the garden and the field : But the combs are laid up in trunks of hollow trees or holes of the earth or of rocks where the bees lodge, or in thoſe houſes we have made for them, which we call *bives*. Here then is the greateſt buſineſs carried on, both within doors and without, of which Xenophon has given us a very accurate, and I think a very curious, account \*. And from what he has ſaid of it, I am perſuaded that no polity in Europe is ſo well governed. They have a queen he ſays, who conducts the whole buſineſs of the ſtate : She  
always

\* Lib. 5. Memorab. De Adminiſtratione Domeſtica, p. 839. Ed. Lucanavii.

always remains in the hive, and takes care that all her subjects be properly employed, sending so many of them out, to get provisions; and what they bring in, she receives, and lays up till it be proper to use it; and when that time comes, she divides it, and gives to every one a share. As to the work within doors of making combs, she takes care also that it be properly executed; and accordingly it is executed, as I have said, in the best manner possible. She likewise takes care of the progeny, that it be properly nourished and brought up; when that is done, and the young are fit for work, she sends out a colony of them, under a leader whom she appoints. This government, says the pious author, is from God. And indeed it is evident that the instinct by which the bees produce works of such art and carry on such a government, must be from God.

As to the other political animal I mentioned, namely the ants, there is a commentator upon Aristotle's *Physics*, Simplicius by name, who (in p. 86.) has told us that the ants in their nests have three apartments; in one of which they live and feed, in another they lay up their provisions, and in the third they bury their dead. In carrying their provisions to their nests, they use wonderful ways for drawing what with respect to them are great weights: And when their provisions become wet, they take them out and expose them to the sun, and in that way dry them; and they make all their movements with great order and regularity.

The same author in the same part of his works, says further, that the swallows and nightingales, in building their nests, use clay so well wrought and so dry, that the physicians make use of it, when they have occasion, for physical purposes, to use the best kind of clay: And this clay these birds mix with straw, and so make a kind of cement of it, of which they make their nests of size sufficient, and very firm and strong.

What makes so regular an economy necessary in the bees and ants, is that those animals cannot find provisions in the winter, and therefore they must lay up stores for that season, during the summer. But all the brutes of every kind are by their instinct directed to do every thing that is necessary for the preservation of the individual and the continuation of the kind. For these purposes they live in the way most proper, and the best suited to their nature and to the climate and country in which they are placed: And I have never heard of any man, who pretended to devise a more proper way, in which they could live and bring up their young.

This last thing that I have mentioned is particularly to be attended to in the operations of the brute, as by it the continuation of the species, which is a most important article in the animal system, is provided for. It is most remarkable in the birds, and is to be seen by us, while we sit in our rooms, where we observe in our windows the swallows building their nests and bringing forth and rearing their offspring. For this purpose they couple, and by their joint labours bring up their young: It is a kind of marriage for a season, and serves the purpose wonderfully well of bringing up the offspring; for which end the couple co-operate most perfectly with each other, some of them sitting alternately upon the eggs, the male sometimes in place of the female, for some reason no doubt, though we know it not; but we know certainly that nothing in nature happens without a reason. In this way the eggs are hatched; and while the one bird sits upon the eggs, the other brings it food.

Such is the manner in which the birds, that is the animals who live in the air, propagate their kind. As to the beasts who inhabit this earth, they take the same care of the propagation of their race. I shall mention only one species of them, and it is that species with which we are better acquainted than with any other; I mean the dogs whom

we

we have domesticated, and with whom we may be said to live. The care they take of their young is really wonderful. I have heard a story, that was very well vouched, of a bitch, who not having milk for her puppies, swallowed herbs which made her vomit; and so she fed her puppies with what she had taken to feed herself. I have been told another story, which I likewise believe, of a bitch in the same situation, who did still better than eating the victuals herself, and then vomiting them; for she carried them in the vessel, which was set down to her, to her puppies at the distance of a mile. And I had a grey-hound bitch of my own, who, when her milk for her puppies failed, went out and caught young hares, and brought them to her puppies to eat.

In this way propagation goes on among the brutes who inhabit the earth and air. As to the inhabitants of the water, and particularly that great collection of water we call the sea, the propagation among them is most wonderful, especially among the herrings. The historians of the North tell us, that in their seas the propagation of them, some centuries ago, was so great (and I suppose it still continues to be very great), that the men took them with their hands; and there were such numbers of them, that they hindered the boats from sailing so fast as they would otherwise have done.

Thus we see that the preservation of the races of animals, which is the chief thing in the animal system, and of much greater consequence than the preservation of individuals, is wonderfully provided for. And even as to the individuals of the several specieses, those which live in the state of nature, are as happy, I believe, as any animals can be that are only sensitive, but not intelligent: For they enjoy all the pleasures of sense, and better than we do, as they enjoy them in a more natural way; and they are liable to no diseases, which make the great misery of our lives, nor to any calamities, except



cept those which must happen according to the general laws of nature, such as earthquakes, eruptions of burning mountains, and inundations.

In short, I think that the animal life of the brute is much happier than our animal life (for I do not speak of our intellectual life); and the reason is plain, their animal life is governed, as I have said, by the wisdom of God, operating by what we call *instinct*, whereas our animal life is governed by our imperfect intellect. And here I think we may practise the advice which Job gives us: "To ask the  
" beasts, and they shall teach us; and the fowls of the air, and they  
" shall tell us: Or speak to the earth, and it shall teach us; and the  
" fishes of the sea shall declare unto us. Who knoweth not that in  
" all these the hand of the Lord hath wrought this? In whose hand  
" is the soul of every living thing, and the breath of all mankind \*."

To those, who would desire to have more information concerning the brute animals on this earth, I recommend an excellent book, before referred to, written upon the subject, Dr Derham's *Physico-Theology*, wherein he has given wonderful examples of the wisdom and goodness of God, in providing for the wants of the brute creation, even of the meanest of them, and which we would call the vilest. There is there to be found the best proof which has hitherto been published, that what we call *the world of Nature*, has been framed and is governed by a wise and a good God: And natural philosophy in that work is, I think, treated in the best manner: For the author does not enquire, as our naturalists at present do, concerning the *efficient*, and what may be called the *mechanical* cause, of natural operations, but concerning the *final* cause of them, by which only the goodness of God can be proved: And indeed a man, who studies only the mechanism of nature, I compare to a man who studies only the motions

\* Job, Chap. XII. v. 7, 8, 9, 10.

tions of a watch or a clock, and can give a very accurate account how they are produced, and how they are connected with one another, but knows nothing of the purpose for which a clock or watch is intended: Yet our naturalists reprobate an enquiry into final causes, as having nothing to do with natural philosophy. But this is not the opinion of Derham, who insists very much upon the final causes of things in this our earth; and, as by them the wisdom and goodness of God are chiefly shown, I think his work is very properly entitled *Physico-Theology*.

As the doctrine of final causes, and the wisdom and goodness of God, are best illustrated by the state of animals upon this earth, this most valuable work of Derham is chiefly employed in shewing that things are so ordered here below, and the animal race so provided for, that they are as happy as by their nature they can be: And as animals are the only sensitive beings in the creation, that is, beings who have the sense of pleasure and pain, and consequently are capable of happiness or misery, they are no doubt the proper subjects for showing the goodness of God; for as Supreme Intelligence is an essential attribute, as we have shown, of the Divine Nature, it is necessary that it should have some end in view in all its operations. Now a good God can have no other end in view but the happiness of his creatures; and indeed to suppose otherwise, would be inconsistent with his intelligence, as well as his goodness: For he must have known that the system would contribute either to the happiness or misery of the animals in it. But that Supreme Intelligence should have preferred the misery of the animals to their happiness, is altogether inconceivable; and that the system should be so very defective as to have no animals in it, is equally inconceivable.

In this important view of the subject our author has gone through all the animals of this earth, quadrupeds, fowls, and fish, not forgetting

getting the nobleſt animal of this earth, man : From him he has deſcended to the meaneſt animals, ſuch as flies and reptiles, the greateſt part of them contemptible, not only for their ſize, but a great part of them bred in filth, corruption, and even dung. Yet he has ſhown, that even to theſe extends the care of Providence, which has provided every thing neceſſary for their preſervation and maintenance ; ſo that not only the race is continued, but the individuals made as happy as their natures will permit, in conformity, however, to the general laws of Nature, to which they and every other animal muſt ſubmit.

In his account of inſects I think there is nothing more curious than what he tells us of the *culex* or *gnat*, which paſſes through three ſtates: *fiſt* it comes from the egg a worm ; then it is what he calls an *aurelia* ; and laſt of all it becomes a *gnat*. In its firſt two ſtates it is a water animal, and in its laſt it is a fly or animal of the air \*. The body of the *gnat*, ſays he, is many times leſs than a ſmall grain of ſand, ſo that the leaſt drop of water can contain many of them ; and yet its body is perfectly formed, containing every part belonging to any animal ; and he ſays it is ornamented too †. The author adds that he has counted 100 of them friſking about in a drop of the green ſcum of water, not bigger than a pin's head ‡.—Such wonderful diſcoveries we have made in Nature by our microſcopes on earth, as well as by our teleſcopes in the heavens.

The antients knew no more of the ſyſtem of the univerſe than what their naked eye could diſcover in the heavens and earth ; whereas we, by the aſſiſtance of our glaſſes, may be ſaid to have diſcovered a new world in both. In the heavens, by means of the teleſcope, we have diſcovered ſo many new ſtars, as muſt give us an idea of the extent of the univerſe, ſuch as the antients could not have had ;  
and

\* P. 383 &amp; 384.

† P. 367 &amp; 368.

‡ P. 368.

and by our microscopes we have discovered an infinite number of ſmall animals, altogether inviſible to the naked eye, and ſuch as we could not have believed poſſible to exiſt if we had not ſeen them ; and which confirms what Ariſtotle has told us, that *whatever is poſſible to exiſt, does aſtually exiſt*. At the ſame time thoſe animals, miſerable and contemptible as we ſhould think them, are ſo amply provided with every thing neceſſary for their ſubſiſtence, that they are as happy as their nature or the order and ſubordination of things in the univerſe will admit ; ſo that they furniſh a proof of the goodneſs, as well as of the power and intelligence of God. The antiens thought that an atheiſt among them was a man void of all underſtanding ; but how much more muſt he be ſo now, when ſuch new ſcenes of Nature's works are opened to him ? Indeed I think a man, who cannot diſcover, in ſo enlarged a proſpect of the works of God, the marks of ſupreme intelligence and goodneſs, muſt not have in his nature either intelligence or goodneſs, and conſequently is not a man.

It is with the greateſt propriety of language therefore that Derham has entitled this work *Phyſico-Theology*, as it is no leſs an excellent *phyſical* work, than an admirable work of theology, wherein he has demonſtrated that prime attribute of God, his goodneſs, ſo eſſential to his nature that Plato calls him the *το αγαθον*, or *goodneſs itſelf*, which Derham ſhows extends to every animal, even to thoſe, as I have ſaid, that we ſhould think the moſt contemptible and moſt miſerable.

Upon the whole, I hope I have ſhown that all the animals of this earth are as happy as by their nature they can be, without excepting even man. This I know will appear to many of my readers a very extraordinary propoſition. But they ſhould conſider that man by his fall has made to himſelf a new nature, very much leſs perfect

than his original nature ; so imperfect that he cannot in this life be so happy as he was in his former state. But even in this life, by the exercise of his free will, which, as I have shown, is essential to his nature, he contrives to make to himself different natures. Thus he may make himself a foolish, vitious, or wicked man : But even when he does so, he is not absolutely miserable, but enjoys as much pleasure, for the present, as his nature is capable of, though it be much overbalanced by the pains he must sooner or later suffer from his folly, vices, or wickedness. That the foolish man enjoys some pleasure from his follies, the vitious man from his vices, and the wicked man from accomplishing his wicked purposes, cannot be denied ; and therefore he is so far happy, as far as the nature he has given to himself will admit : But if he make himself a wise, virtuous, and religious man, he will be as happy as he can be in this life, and will secure to himself very much greater happiness in the life to come.

And thus I think I have *justified the ways of God to man*, and shown that his goodness extends not only to *man*, but to all the animal creation here below, where I have proved that every animal is as happy, even in this life, as he can be by the general laws of nature, which being part of the *Divine Nature*, even God himself cannot alter ; and that the principal animal in this earth is destined, sooner or later, in some future life, to enjoy the greatest happiness that his nature is capable of, when it is improved as much as by its nature it can be.

CHAP.



## C H A P. IV.

*Only One Supreme Being conceivable :—His Perfections demonstrated from the Perfection of the Universe :—Explanation of his Omnipresence.—The Contemplation of the Works of Creation, the greatest happiness the human mind can enjoy.—The Author's reason for collecting so many Facts, and insisting so much on them, in a Theological work.—Science founded on the Nature of Things and their Connection of Whole and Part, not on the conceptions of our minds.*

THE only other thing that remains to be proved concerning the Divine Nature, is that there is but one God ; that is but one Being, all wise, all good, and all powerful. And upon this subject I shall be very short ; for in the first place, to have many, or even several such beings, would be altogether unnecessary and superfluous, since one being of that kind is sufficient. Now, as there is every thing in Nature that is sufficient and proper for answering all the purposes of Nature, so there is nothing unnecessary or redundant ; for otherwise the system of the Universe would not be so perfect a system as I think I have shown it to be. But, 2dly, I do not think that we can conceive any more than one Supreme Being : For, if there were two or more, I do not think that any of them could be called Supreme, *supreme* implying a superiority or excellence, such as there is nothing that can be compared to it. But the Supreme Deity must have very many ministers under him, by whom all the various business of nature is performed. And it is in this way that I

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understand

understand the omnipresence of God : For that one and the same Being should exist every where, and should be spread and diffused through all space, is what I cannot conceive ; nor do I think that it is reconcileable to that Unity which we must suppose in the Divine Nature. But he is present every where by what proceeds from him. And in this respect the Sun is, of all corporeal things, the best image of Divinity : For he is every where present here below by his rays and by the light which these gives us ; but he himself is in the heavens, and at a prodigious distance from us.

And in this way I think may be illustrated the operations of our animal minds, which move at once several parts of our bodies and in different ways. Now we have but one animal mind ; and that mind cannot be divided any more than any other immaterial substance : But there is nothing to hinder the influence from it to proceed at once to different parts of our bodies. So that here, as in other things, our *little world* resembles the *great*.

But besides that procession from Divinity, which I have compared to the light of the sun, he has undoubtedly proceeding from him many immaterial beings, of intelligence no doubt greater or less and subordinate to one another, such as angels and arch-angels ; the angels of nations, of which Daniel speaks ; also the angels of churches, of which we hear in the revelations ; and likewise, as I have shown, the angels who have the care of individuals. Of intelligent beings, however, I am not to speak at present, but only of those minds which move the bodies of this earth, not only animated bodies, but those that are called inanimate, such as earths, stones, metals, and minerals. To say that they are all moved by a present Deity, I think would be impious ; because it would be supposing that the Deity is embodied with them, that being the only way in which mind can move body. At the same time they cannot, as I have shown,

shown, be moved without mind. But we can conceive them to be moved by an infinite number of inferior minds, proceeding all from the third person of the Divinity, that is the Holy Spirit, or Principle of Life and Animation in the Universe.

In this sense, therefore, it is true what Virgil says,

Principio caelum ac terras, camposque liquentes,  
Lucentemque globum Lunae, Titaniaque astra,  
Spiritus intus alit, totamque infusa per artus  
Mens agitat molem, et magno se corpore miscet.

ÆN. Lib. VI. v. 724.

And also what he says in another passage,

————— Deum namque ire per omnes  
Terrasque, tractusque maris, coelumque profundum.

GEORG. Lib. IV. v. 221.

And indeed I think I see every where a present Deity, not only in the heavens above me, which are no doubt the most magnificent exhibition of his wisdom, goodness, and power, and therefore are said in our scripture, *to declare the glory of the Lord*, but in every thing I see here on earth, and particularly in the actions of the brute animals, which are directed, not as ours are by our weak intelligences, but by Divine Wisdom, which has formed their minds so, that upon every occasion they do what is best for the preservation of the individual and the continuation of the species; and indeed the operations of some animals are so directed and guided by their instinct, not in one operation only, but in a succession of operations, all for the two purposes above mentioned, as to exceed any thing that man's intelligence, assisted by the organs of our bodies, such as our hands, or by any instruments of art, could perform. In the economy of animals I see a present Deity, more than in the motions

motions of bodies ; for I think both the wisdom and the goodness of God, governing and directing the minds of those animals, are more manifested than in the motions of bodies, however regular and orderly they be ; as it is the operations of the minds of animals, which produce either their happiness or misery. Now, as the sensitive life is that which is of greatest consequence in the universe, we must suppose that a wise and good God, in forming the system of the universe, has had that principally in view.

And here ends my system of theology, in which I hope I have proved to the satisfaction of the reader, that there is one Being, which is all-wise, all-powerful, and all-good ; whose nature consists of three substances, all making but one Being ; that, by the necessity of nature, there must be in his Being a trinity in unity ; and that this Being has produced and preserves every thing in the universe.

Whether I have succeeded in this great work, does not belong to me to judge ; but this I can say, with truth, that my intention at least in the work, is good, which is to present to the reader and to myself a subject of the most pleasant contemplation that the human mind can enjoy ; that is, the contemplation of the wisdom, goodness, and beauty which appear in the works of Creation. The Deity, when he produced this world, and saw that it was good \*, or *beautiful*, as it is translated in the septuagint, was pleased : And no doubt his pleasure was infinitely greater than ours can be, as the works, of which he saw the goodness and beauty, were his own works. And in this we should endeavour to enjoy, as much as we can, the pleasure arising from the contemplation of our own works.

In this volume the reader will observe, that though it be of the  
theological

\* Genesis, Chap. I. 7.

theological kind, I have said a great deal of man ; and indeed it may be said to be a history of man in all the various states through which he has passed down to his present state in this earth. But the reader will consider, that man is the only intelligent animal here below ; that it is only by the study of him that we can have any idea of intelligence, without the knowledge of which it is impossible that we can know any thing of the Divine Nature ; and that in acquiring this knowledge we are assisted, as I have shown, more than in acquiring any other knowledge, by the study of ourselves, which gives us the most certain of all knowledge and the most convincing, being founded upon consciousness. And, as it is the most certain of all knowledge, so it is the most valuable ; for it not only leads us, as I have said, up to the knowledge of Divinity, which is the summit of human knowledge, but it directs us in all the duties of life, and makes us fit not only for the economy and government of a family, but for the government of a state, and for every duty of social life. It is therefore not to be wondered that the inscription upon the gate of the Temple of *Delphi*, which recommends that study, was the result of the wisdom of the seven wise men of Greece ; nor do I think that, if there had been seven times seven of them, they could have given a better advice to their countrymen, and, I may say, to all mankind.

There is one thing the reader will observe in this work, that there are more facts related in it than I believe are to be found in any theological work. These facts are collected both from antient and modern books, and from information that I have had from men of learning and observation that I have had occasion to know, and some of them from my own observation. But the reader will observe, that this work is not only, as I have said, a work that may be said to be a history of man, but also a proof, by facts, of the wisdom and goodness of God. And there is particularly one fact that I  
have



have mentioned, which I think deserves the attention of the reader : And it is what I have observed of that wonderful union of things in the system of the universe, by which every thing in it is made to contain, or to be contained in some other thing ; so that every one thing in the universe is connected with some other thing, and that by the most intimate connection possible, that of *whole* and *part*. In this way I have proved, what I think is a truth of great consequence, that all our knowledge and science is founded in the nature of things, not merely in the operations of our minds, as has been endeavoured to be proved in some works lately published ; for I have shown that all, which we call *learning* or *science*, is nothing but the knowledge of what things contain or are contained in other things : And indeed it was most natural, that, as all our ideas are derived from Nature, we should in our reasoning connect them together in the same way that they are connected in Nature ; so that every proposition affirms or denies that one idea contains, or is contained in another.

APPEN-

# A P P E N D I X.

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## C H A P. I.

*The World is a System, having all its parts most intimately connected together :—It consists of all things material and immaterial, which if not divided into Classes, would have been infinite as to us.—These Classes consist of Genuses, Specieses, and Individuals, all containing and being contained.—Things not only contained in one another, but derived from one another; the Species from the Genus, and the Individual from the Species.—Every Thing in the Universe comprehended in the Categories :—These discovered by Archytas; a very great discovery, leading us up to the Supreme Cause.—All Things in God, and God in all Things.—The question of the Separate Existence of General Ideas considered.—Reasons for the Author's Opinion that they do exist in that manner.—The Causes of Things in the Universe, not unnecessarily multiplied by the Author.—A Subordination of Causes, from the Supreme Cause to the Second Person of the Trinity, from the Second to the Third, from the Trinity to the Categories, and from them to Genuses, Specieses, and Individuals, necessary.—All these Causes Immaterial Substances.—A most intimate Connection betwixt the Doctrine of the Trinity and Plato's Doctrine of Ideas.—Both Doctrines originally from Egypt, where Plato learned them.*

**I**N the course of this Volume I have mentioned several Systems which are contained in the Great System of the Universe: And indeed, as it is the production of Supreme Intelligence, there can be

nothing in it without System ; for which reason I have said that it is a System of Systems \*. In this Appendix I will endeavour to explain the nature of this wonderful System containing so many other Systems, and to show that it is ONE System, of which all the several parts are wonderfully connected together.

The extent and the variety of this system is wonderful ; for it comprehends all substances material and immaterial, and all their qualities. As to immaterial substances, it comprehends all the minds that can be conceived to exist : First minds intellectual, at the head of which is the Supreme Mind, the author of the whole system ; 2dly, Intellectual minds of an inferior degree ; 3dly, Animal minds ; 4thly, Vegetable minds ; and, lastly, those minds which move unorganized bodies. It contains also all the bodies upon which those minds operate, such as the elements of earth, air, fire, and water ; all the bodies of animals and vegetables, and all the bodies unorganized as well as organized ; in short, all the minds and all the bodies any where existing, or that can be conceived to exist.

Such a prodigious number of things, (which might be called *infinite*, if there could be any thing infinite in a system, such as that of the universe, or indeed in any system), and so various in their natures, would have made a mass of things and a perfect chaos, if they had not been arranged and divided into certain classes ; which is done by the division of things into genuses, specieses, and individuals. This division therefore is universal ; and accordingly there is nothing in nature that is not either a genus, a species, or an individual of some species.

At first sight this division of things would appear to make the universe not *one*, but *many* different things. But I shall show that  
it

\* P. 79.

it has a quite different effect, and that it makes the universe *one* as much as it is possible to conceive a subject consisting of such a prodigious number of various things, or indeed any subject consisting of different things. I have already shown \* that every thing in the universe *contains* or *is contained* in some other thing; and I have added † that some things both contain and are contained in other things: But I will here make the proposition universal, and show that all things contain and are contained in other things in this manner: For all things are divided into *genuses*, *specieses*, and *individuals*. Now every genus contains under it *specieses*, otherwise it would be no genus; each of these *specieses* contains the genus to which they belong, otherwise they would not be of that genus; and every individual is contained in the species to which it belongs, and likewise contains that species, otherwise it would not be of that species.

To illustrate this by an example: The genus *animal* contains all the animals on this earth; which must be contained in that genus, otherwise they would not be animals, that is, beings sensitive: This genus contains many *specieses*; each of which not only is contained in the genus *animal*, but also contains that genus, otherwise it would not be a species of it: Again, every one of these *specieses* contains individuals, and every individual contains the *species* of which it is an individual; so that *man* contains both the genus *animal* and the species of *animal intelligent*, and is contained in the genus *animal* and in that species of it. Now it is impossible to conceive a closer union of things than that by which they both contain and are contained in one another; an union so close, that it would not be intelligible without the distinction, as I have elsewhere said ‡, of *containing*

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\* Pp. 88 & 96 of this Vol.

† Ibid. p. 90.

‡ Ibid. p. 81.

*taining virtually and actually*;—a distinction, which I have elsewhere explained at some length \*.

But besides this close union of things, which the division into *genuses*, *specieses*, and *individuals*, shows, we discover a connection of things, whereby one thing is derived from another, without which it could not exist; a connection which naturally leads us up to the knowledge of the first cause, without which nothing could exist. Thus, for example, we know that the genus *animal*, that is, *Being sensitive*, leads us to inquire what such a being is; and we discover that it is a mind, which perceives things that give it pleasure or pain. And this leads us to inquire what *mind* is? And we find it is that which animates *body*; so that the genus *animal* is a species of *animated body*: And if we carry our inquiry farther, we discover that there are superior minds, which are unimbodyed, and consequently more excellent, as having nothing of the contagion of matter. And thus we rise to the Supreme Mind, from which all other minds are derived, not only minds intelligent, but minds that only move matter, and give to body all its qualities and all its operations.

Thus it appears that the genus is that without which none of the specieses of that genus, nor of the individuals under those specieses, could exist, and which therefore may be said to be the cause producing all those specieses and individuals; and by the study of this cause we are led up to the discovery of the first cause of all things.

But before we come to that cause, there is another step to be made, and that a very great one. The step I mean is from the lower *genuses* to the higher and to the highest of all; for the *genuses* rise above one another, so that the lower genus is a species of the higher; and

\* P. 62 of this Vol.



and so we go on, till we come to the highest genus of all, of which all the other are but specieses, and therefore are comprehended in those highest genus which comprehend all things in the universe. The discovery therefore of these genus was the greatest discovery in science that ever was made by mortal man, and is contained in what is called the Categories. It was made by Archytas, a Pythagorean philosopher : But I will say no more of it here, as I have treated of it in other parts of this work \*.

This last discovery leads us directly to the first cause of all things, that is the Supreme Intelligence, who has produced every thing in the universe ; for betwixt him and those highest genus, which comprehend all things in the universe, we cannot imagine any intermediate cause. We have therefore here a progression of causes, which is really wonderful, from individuals to the lower specieses,—from the lower specieses to the lower genus,—from these to higher genus,—from the higher to the highest of all, the categories,—and from these to the Supreme Being, the author of all things in the universe.

And here we may observe that the general principle, which goes through all nature, does not fail with respect to the Supreme Being, and the universe which he has produced. The principle I mean is, that all things, which contain other things, are also contained in them. This makes a wonderful union of things in the universe ; and it holds not only in the lower causes, which contain other things that are produced out of them, but in the first cause, that is the cause of all things : For this cause contains every thing in the universe, and every thing contains it, there being nothing, not even an individual, in which the first cause is not to be found : So true it is, what our scripture tells us, that *all is in God*, and *God is in all*.

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\* Pp. 80 & 111 of this Vol.

That all is in God is evident ; for otherwise all things could not have been produced out of him : And that he is in all, is evident from the wonderful order and arrangement of things in the universe, which could not have been without Supreme Intelligence. And our scripture says, with respect to the noblest animal on this earth, that is man, *that in God we live, are moved, and have our BEING.*

And this compleats that wonderful union of things in the universe, by which every thing contains some other thing, and is contained in it ; for it appears that the first cause contains every thing in the universe, and is contained in every thing.

But many of the philosophers of this age (I believe I may say all of them) are of opinion that what we call *genuses* and *specieses*, by which I have shewn the wonderful union of things in the universe, have no existence in nature, and are not the works of God, but the works of man, who, from the conformity that he has observed betwixt the different individual subjects, has formed the ideas of *genuses* and *specieses*, and in that way has ordered and arranged the several beings in the heavens and earth, that have fallen under his observation. What I have said, therefore, of the *genuses* being separate beings, which have produced the *specieses*, and of the *specieses* being also separate beings, producing in like manner the individuals of the *specieses*, is all mere imagination, and ascribing presumptuously to God and Nature the imaginations of our minds. At the same time they do not deny that those qualities of things, which we say constitute *genuses* and *specieses*, really exist in the several things from which we have collected them ; nor do they deny that there is an idea in every one of those particular subjects, which makes them what they are, and gives them all their different qualities : But Nature, they say, has made no collection of them, such as  
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form a genus or a species, this collection and arrangement of them being all the work of man, for the purpose of his more easily apprehending them and retaining them in his memory. In short, they say that though there be a particular idea, that is an immaterial substance, which exists in every particular subject, and makes it what it is, yet there is not any collection of those ideas, making what we call a general idea, such as that of genus or species.

But though it may seem sufficient that those likenesses and differences of things, from which we form the general idea of *genuses* and *specieses*, do actually exist in particular subjects, and though in that way things be connected together in the universe, yet the system is more uniform, if we can discover that, as all things proceed from one Being actually existing, and are not a fiction merely of our minds, so there are under him, and in subordination to him, other individual beings, from which other things proceed, and that in this way the system of the universe is formed. That these subordinate beings must be ideas, that is immaterial substances, which can only be supposed productive of so many things, is evident; and the only question is, whether such general ideas have any real existence, or are no more than the creatures of our mind. And this leads to the famous controversy betwixt Plato and Aristotle concerning ideas, of which I have said a good deal elsewhere \*, but to which I will add something here, as it is a most important question with respect to the constitution and system of the universe.

That there are particular ideas which animate the bodies here below, not only animals and vegetables, but bodies unorganized, from which proceed all their qualities, and among others their motions up or down, to or from one another, every man must admit who

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\* Vol. V. p. 187.

is not a materialist, and does not maintain that body can move itself and produce all those different qualities which we see in different bodies: But the question is, first, Whether these ideas have any existence by themselves out of body; and, 2dly, Whether they are only particular ideas, moving particular bodies, but not general ideas producing particular ideas.

That they are immaterial beings, existing by themselves, was the opinion of Plato, who called them *ideas*; and held, that by being incorporated with matter, they produced all the beings that we see in the heavens and earth, composing the various systems in nature: Whereas Aristotle maintained, that though all the bodies, that we see, have a mind in them, which gives them motion and all their other qualities, and which therefore we call the *idea* of the thing, yet such ideas have no existence by themselves, nor do they form any systems of things.

But to this I answer, that I think it is impossible to conceive an immaterial being necessarily existing in matter and not existing otherwise: For in that case I should consider such beings as not immaterial but material, since they could not exist without matter; though they may exist joined with matter, as our intellectual minds exist joined with our bodies: But no man, if he be not an absolute materialist, will for that reason maintain, that our intellectual mind is not an immaterial being, which can exist by itself without being incorporated with matter. Those ideas or minds, therefore, which inhabit bodies organized or unorganized here below, as they are immaterial beings, can exist without matter, and did so exist in the mind of the Deity, before they came down to this earth; and in that state some of them were more perfect than others, and were what we call *general ideas*, comprehending in their nature several other ideas, such as the idea of *genus*, which is one idea, but comprehending

prehending in its nature other ideas, such as those of specieses; and in the same manner the idea of a species comprehends the ideas of all the individuals contained in that species. To suppose otherwise, would be to maintain that there are no such things existing as genus, or species, or individuals; for, if the species could exist without the genus and the individual without the species, then there would be an end of that most important order of things in the universe, without which we could not conceive it to be a system. Now as genuses, specieses, and individuals are thus so necessarily connected that they cannot be separated, we must suppose that they all form one general idea, which is so much more comprehensive than the particular idea, that all the particular ideas are derived from it; for there is nothing in the universe that is not either genus, species, or individual. Of these three the genus is the most comprehensive, and therefore comprehends the specieses; and, as the species is likewise a general idea, though not so general as the genus, it comprehends only individuals: And, as the genus comprehends the specieses, we must suppose them to be derived from the specieses; and, as the specieses comprehend the individuals, we must suppose in like manner that the individuals are derived from the specieses. In the same manner we must conceive genuses, specieses, and individuals in minerals, though they run together so much, that the genuses and specieses of them are not so easily distinguished.

Thus I think I have proved that the ideas of Plato have a real existence, and that, by being incorporated with matter, they have produced the material world; for the production of which they are so necessary, that even Body could not exist without them, as Timæus the Locrian informs us, who has given us the first step of cosmogony, by telling us that out of the *materia prima*, which has of itself no form or dimensions nor any thing that can be apprehended even by the senses, Body is formed, by an *idea* being incor-



porated with *the matter*. And I think I have also proved, that not only ideas of particular things exist, but also general ideas, from which, as it is most natural, particular ideas are derived: And in this way I have accounted for the origin of that division of things, which is universal in nature, into *genuses*, *specieses*, and *individuals*, and so have proved the universe to be a compleat system proceeding from one first cause, and other causes subordinate to that in a regular progression, down to the individual things existing in the universe; so that there is not any one thing in it, for the origin of which we cannot account, as every thing is derived from some other thing, which is prior to it in the order of nature and has produced it. And all things are so connected in nature, that, as I have elsewhere said\*, there is nothing existing, that does not contain or is not contained in some other thing; and what makes still a more wonderful connection is, that every thing both contains, and is contained, in some other thing.

It may seem surprising to many of my readers that I should multiply so much the causes of things in the universe, and divide them into causes principal and subordinate, when we may suppose the first cause producing every thing immediately by a *fiat*. But we should consider that the first cause is supreme not only in power but in intelligence, which is so essential to his nature that we cannot conceive a Supreme Being without intelligence. Now intelligence must act regularly and in order, and proceed from one thing to another; and accordingly God has not produced every thing immediately from himself, but by the intervention of the other two persons of the Trinity, the Son and the Holy Spirit. By the first of these he has produced that intelligence, which we see is predominant in the universe, and all the inferior intelligences in it; and among other things that are derived from this principle of intelligence, I reckon that division of things into *genuses* and *specieses*,  
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\* See p 331.

without which there would be no order or regularity in the universe, and nothing but a chaos or a confused mass of things. From the third person of the Trinity, or the Holy Spirit, proceed those minds, which animate and give life and action to all things in the universe, to animals, vegetables, and to bodies unorganized, such as minerals, and even to the elements, the earth, air, fire, and water. For this reason I call it the elemental life; and it may be called the universal life, since all bodies of every kind, organized and not organized, are moved by it, either up or down or in the direction in which they are impelled; for I hold there is no such thing in nature as body either beginning motion, or continuing it by a *vis insita* in matter. Now as all the ideas of Plato are immaterial substances, or minds, and produce every thing in nature, giving to body not only motion but form and all its qualities, it would be most extraordinary if these minds should have no existence by themselves, when even Body, which is only the subject upon which mind operates, exists by itself. And as they all proceeded from the Deity, it must have been in the most orderly and regular manner, that is in general ideas, which are the ideas the most excellent, and from which all other ideas are produced in regular order; first the most general ideas, then the less general produced from them, and so on down to the least general of all, producing nothing but particular ideas, such as animal, the lowest species, and the individuals under them; so that every thing from the first cause is both produced, and produces;—all except individuals, which are produced but do not produce, except in a way different from the productions I have mentioned. Nothing therefore can be conceived more regular or orderly than this progression of causes and the productions from these causes, or more closely joined together, every thing *being produced* and *producing*.

The first production from the third person of the Trinity, the  
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principle, as I have said, of all life and animation in the creation, is that mind, which animates all bodies organized and unorganized, and even the elements; and this may be reckoned the highest genus of this kind of being. The next most general idea of this class, is that which animates only bodies organized, such as vegetables, which may be said to constitute another general idea, but less general than the first I have mentioned. The third general idea is that, from which proceed the several minds that animate sensitive beings such as animals.

Of the animal and vegetable minds, there are many different genera and specieses, which are well known to naturalists: And all I shall say of them here, is, that every genus of animal or vegetable, is a general idea, comprehending under it all the several specieses of animal or vegetable; and these specieses are likewise ideas, but less general, containing only individuals of the animal or vegetable kind. But as nothing in nature can exist without mind, not even individuals, all the genera and specieses of animals and vegetables are general ideas, or minds, producing more particular ideas of specieses or individuals.

And in this way I think I have shown, that the universe, besides the particular systems which it contains, is in itself the most compleat system that can be imagined, proceeding altogether, as we must suppose the universe and every thing in it to proceed, from minds, that is from ideas more or less general or particular. And in this way I think, that, with what I have said in the preceding volume above referred to, I have proved that Plato's system of ideas is the true system of the universe, by which every thing is derived from the first cause in the most regular order, beginning with ideas or minds, which are the most natural production from mind; nor indeed can we suppose any other immediate production from the Supreme

preme Mind: And the most excellent ideas, that is the most general ideas, we must suppose proceeding first from that mind, and these producing the less general, till at last they descend to particular ideas, forming and animating only particular objects.

Without such a subordination of causes in the universe, we must suppose that the whole universe proceeded immediately and directly from the first cause, who could not properly in that case be called the *cause of causes*, as Plato calls him, nor would there be that order and regularity in the universe, which must be in the production of Supreme Intelligence, but every thing might be said to have been the production, as I have observed, of the Supreme Being by one *fiat*. But that such is not the case, is evident from the first production of the Supreme Cause, I mean the Trinity, which proceeds in regular order;—first the Son from the Supreme God or Father, and then from the Son the Holy Spirit; that is, in subordination, the Son to the Father from whom he is produced, and the Holy Spirit to the Son which produces him. Now I say, that this orderly production must go on through the whole universe; and that, as the Son and Holy Spirit proceed regularly and with due subordination from the First Cause, and are the first subordinate causes, the Son to the Father or Supreme God, and the third person to the second person of the Trinity and proceeding from him,—if all the things in the universe were not to proceed from causes subordinate to the Son and Holy Spirit, then there would be an end of that subordination which we see in the causes of things, and consequently in the order and system of the universe: And therefore I think that the progression, which I have shown, of all the things in the universe in subordination to the second and third persons of the Trinity, is, I may say, demonstration, to those who believe that a First Cause exists, and that from that cause proceed two other causes, intelligence and the principle

ciple of vitality, that from these two causes all the other causes of things in the universe proceed in due subordination one to another.

This subordination therefore of causes in the universe, I think, is essentially connected with the doctrine of the Trinity; and these subordinate causes we must necessarily suppose to be immaterial substances, such as the *ideas of Plato*; for we can have no conception of material substances producing all this variety of minds and bodies, and all the things we see in the universe.

I have said a good deal in the preceding part of this work of the connection betwixt the doctrine of the Trinity and the ideas of Plato: But what I have said here shows that the connection is most intimate, so intimate, that these ideas are all contained in the persons of the Trinity, and from them diffused over the whole universe, and forming every thing in it. The First Person of the Trinity, or the Supreme God, as all things proceed from him, must necessarily contain all the ideas which constitute the universe. Of these ideas he has communicated to his Son, the second person, all the ideas of intelligence; and a most general idea this is, as there is nothing in the universe that is formed without intelligence; which we are told in scripture, in terms the most explicit, where it is said, that every thing was made by the Son or second person of the Trinity, that is the principle of intelligence, and nothing without intelligence. To the third person of the Trinity he assigned those ideas, which give life and action to all the beings of the universe, not only to animals and plants and other bodies organized, but to bodies unorganized; and in this way he gives life and animation to all things in the universe, so that every thing in it is in action, and operating for some end or purpose, directed by intelligence. Now where a whole system is the production of intelligence, and is also moved by mind conducted by intelligence, that system must be the most perfect



fect that can be imagined. It is therefore not to be wondered that in Egypt, the parent country of all arts and sciences, those ideas, which we call *the ideas of Plato*, were truly the ideas of the Egyptians, and were part of their religion and philosophy, as well as the doctrine of the Trinity; and accordingly Plato learned them both in Egypt; nor indeed, without both, is it possible to make a system of the universe, in which all things do not proceed immediately from the first cause, but from causes subordinate to that cause. The first of these are the second and third persons of the Trinity, and from them all the inferior subordinate causes, which I have mentioned, producing every thing in the universe: So that all things in it are either producing or produced, that is *containing* or *being contained*, than which a greater order or connection of things cannot be imagined.

CHAP.

## C H A P. II.

*Objection to the Impossibility of our Comprehending the System of the Universe, answered.—We have two Faculties, by the first of which we perceive Individuals; and by the second Generals or Systems.—Our Progress from Particular to General Ideas.—Difference betwixt our Ideas and our Perceptions of Sense.—The Progress of the Mind of Man in this Earth wonderful—Not sufficiently attended to :—From a Brute of the better kind, perceiving only Objects of Sense, to an Intellectual Being, comprehending the System of the Universe, consisting of Genuses, Specieses, and Individuals, and all their Connections and Dependencies.—Science and Truth, founded on the Perception of the one in the many.—The Wonderful Connection of all Things in the Universe, the foundation of all our knowledge, even of our knowledge of the Supreme Being, the first person of the Trinity.—The Various Changes of Man not to end with this Life.—The Goodness of God Manifested in the Faculties he has bestowed upon us.*

IT may be objected to this System which I have given of the Universe, that, though it may be a true system, it is impossible that an animal of so limited a capacity as man can comprehend it ; and that, therefore, we should not pretend to make a system of what is so much above our capacity. And indeed that he should comprehend every particular of such a system is impossible : But he may form some general idea of the whole of it, and discover the relations  
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of the several things to one another, together with the union of the whole in a system. For this purpose it has pleased God to bestow upon man a faculty, which apprehends things only as they are connected with other things. For Heaven has given us two faculties of perception; the one, by which we perceive single things existing by themselves, without relation to any other thing, in the same manner as the brutes perceive things, and that is our senses; the other is a much higher faculty, so high, that we may be said by it to participate of Divinity, and accordingly are said to be made after the image of God, or, as the Latins express it, to have in us *Divinae particula aurae*. By this last faculty we do not perceive things singly and by themselves, as we do by our senses, but all in relation or connection with other things; and such is the connection as to make a *whole*, or *one*, of several things. In this way we perceive things so connected together as to make *one* genus or *one* species: And even individuals we perceive in the same way; for we perceive in them a relation of their parts, and that those qualities, which constitute their nature, are so connected as to make *one* substance of the whole. In this way therefore we perceive the *one* in *genuses*, *specieses*, and *individuals*; and, as every thing in nature is *genus*, *species*, or *individual*, by this faculty of intellect we perceive the *one* in the *many* in all things existing which fall under our observation\*. And this is what makes truth or science; for, as our ideas are the foundation of all our science, we perceive the *one* in several things, without which perception we could not be said to have the idea of any thing; because, if we did not perceive that the several things, which form the idea, were so connected together as to make one thing, the idea even of a particular object could not exist. Even in particular subjects therefore we find the *one* in the *many*, which, as I have said, is essential to truth and science: For the intellect, in con-

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\* See what I have further said upon the difference betwixt the perceptions of sense and those of intellect, in p. 198 of this Vol.

sidering any particular object, discovers in it several qualities, of which it forms *one* idea, comprehending them all and distinguishing that particular object from other objects of a different kind; and then, as I have shown elsewhere \*, it proceeds to make the particular idea, thus formed, a general idea.—So that it is by our ideas that we know the nature of all things, both particular and general.

And here we may observe the difference betwixt our ideas and the perceptions of sense, which are common to us with the brutes. By these we learn to know that these perceptions are either the same or different, and consequently that the objects perceived are the same or different: Now this knowledge the brutes have as well as we; for if they could not in this way distinguish the objects of their perceptions, they could not carry on the economy of their lives. But what makes this sameness or difference we do not, nor cannot know by our senses, but it must be by our intellect, which perceives the nature of the things, and in this way accounts for their sameness or difference, and this is done by forming *ideas* of the thing †.

The wonderful progress of the mind of man in his state on this earth, I think has not been sufficiently attended to by the philosophers of this age, though it be a thing that they may see in the progress of every child from his birth to his manhood. When in his mere natural state, without any education, he is, as Aristotle has told us, a mere brute animal, of the better kind, which he expresses by calling him a *logical* animal, that is an animal who has the faculty

\* Vol. V. p. 168 and following.

† Who would desire to know more particularly what man is, and the difference betwixt him and the brute, may read what I have said at some length in Vol. I. of this work, p. 134 and following; as I think it a most important part of our knowledge, to know what we ourselves are, and how we are distinguished from other animals which are sensitive as well as we.

culty of comparing his sensations\*: And he adds, what distinguishes him from other animals of this earth, even in his natural state, "That he has the capacity of intellect and science," which I think, as I have said elsewhere, is so compleat a definition of man in his natural state, that I have made it the foundation of my whole philosophy of man†; and in the course of this work I have endeavoured to explain how this wonderful change was made from a brute of the better kind to an animal of intellect and science, not in capacity only but in actuality. As this change must appear to the philosopher one of the most wonderful things in this earth, I will here say something more upon the subject.

I will begin with the first exercise of our intellect, which must be upon objects of sense; for, as our senses are the first inlets of all our knowledge in this state of our existence, our intellect must begin with considering the objects which they present to us: And these must be considered at first each separately, and so a particular idea formed of them; for I think I have shown, that we can have no general ideas without having first ideas of particular things‡; and indeed it appears to me a thing inconceivable, that we can form any general idea without having particular ideas of which the *general* idea consists; though Mr Locke has made no such distinction. Now we can form no idea of any particular object of sense, except by considering the several qualities, which our senses perceive in the object. These the brute perceives as well as we; and it is in that way that he knows the object to be the same that he had perceived before, or different. But he perceives them altogether, and as it were in a lump without making any distinction betwixt the several qualities: Whereas man first analyses them, then puts them to-  
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\* P. 292 and following of this Vol.

† P. 144 of this Vol.

‡ Vol. V. p. 168.



ther and so considers them as making altogether *one thing*; and in this way he forms an idea of a particular object perceived by his senses: But this he could not do without first analysing and considering separately the several qualities of the object; for, as analysis is the beginning of all science, so it is also that, by which our ideas are formed, from whence all science is derived. In this way he makes *one* of the *many*, which is the work of intellect and of intellect only; for, as Aristotle has told us, *Νους ἔστι το ἔν ποιουν*. And it is by this operation of intellect, that all science, as I shall show, is formed.

The intellect, having thus made *one* of the *many* of particular objects of sense, proceeds to make *one* of *several* objects; for it discovers, as I have shown, that there are other objects having the same qualities, which make them *one*, as well as the object first perceived; and in that way we perceive the *one* in the *many* objects which constitute the *species*; in the same way we go on, till we find the *one* in many more objects, which constitute a *genus*; and so on from a lower genus to a higher genus, till we come to the highest genuses of all, that is the categories.

And here the reader may observe that the *one*, which we discover not in one thing only but in many things, such as those which compose specieses and genuses, arises from that wonderful union which I have observed in things, whereby every thing in the universe contains, or is contained, in some thing else \*. Now when things are so connected, that the one is part of the other, then they necessarily make one thing. In this way the several individuals of a species, being necessarily contained in the species, are *one* with the species; and in the same manner the different specieses of any genus, being contained in the genus, make *one* with the genus: In this way every proposition, by which the praedicate is said to contain

\* See p. 331 of this Vol.

## A P P E N D I X.

tain the subject, makes *one* of both praedicate and subject; and the same is the case whether the proposition be self-evident or demonstrated. In the syllogism, by which the proposition is demonstrated, we make a *greater one*; for of the two first propositions we make *one* in the Conclusion. *The one* therefore *in the many* is what makes all science: And it is likewise the foundation of our ideas, from which all science is derived; for every idea makes *one*, as I have said, of the several things which compose it.

This connection of things with one another, by which every thing, even an individual thing, is *one* of several things, is so universal in nature, that our intellect can form no idea, but of things so connected. We cannot form what can be called an idea of any thing on this earth, without referring it to some genus or species: We cannot, for example, form what can be called an idea of *man*, or of any *other animal*, without referring it to the genus *animal*, or some *species* of that genus; for if we cannot do that, we have only a perception of the particular animal, such as the brute has, that is, we perceive certain qualities in the animal which distinguish it from other animals; and this the brute does as well as we; but unless we can refer it to some genus or species, we have no idea of it. Our ideas therefore are so necessarily connected with other things with which the idea has a connection, that we can form no idea without considering that connection, and so perceiving that the object of the idea is *one of many*: Nor can we otherwise form an idea of the first person of the Trinity, from whom all things in the universe proceed, without taking into our consideration the other two persons of the Trinity, with which he is necessarily connected, so that he is necessarily *one of three*; and all the three are so necessarily connected as to make *one Being* \*. And the reason why we cannot form any idea otherwise than by conceiving it as *one* of several things, is this, that our intelligence, from which all our ideas proceed, perceives nothing simply

\* See what I have said upon this subject in p. 46 of this Vol.

simply and absolutely in itself, as our senses do, but in relation to other things and as *one* of several things. This distinction betwixt intellect and sense I have elsewhere explained \*: And it shows clearly that it is only by intellect that we are enabled to form any idea of the system of the universe, or of any other system; and, unless we can perceive a *system*, or a *whole*, in things, we cannot, as I have elsewhere shown †, have any idea of the *beautiful*, the source, as I have said ‡, both of virtue and religion.

And thus it appears that the operations of our intellect, in perceiving *the one* in *the many*, are perfectly suitable to the nature of things, since nothing exists but as *one* of *several* or *many* things. And this operation of our intellect naturally leads us to inquire, Whether there be not, not only *one in the many*, but *one in all*, that is the Supreme Being? and Whether the universe, which he has produced, be not a system of very many things, all connected together, as things must be in every system, so that the universe is *one in the many* as well as its great Author? And, as our intellect naturally leads to these sublime speculations, which if well conducted, must make the greatest happiness of an intellectual being, we should be very thankful to God, for having bestowed upon us such a faculty.

I will conclude this long work by adding to it, by way of epilogue, an apology, which many of my readers may think necessary, for the faults I have found with the philosophy of Mr Locke in his Essay on the Human Understanding, which is the only system of logic we have in English, and with the philosophy of a much greater author, Sir Isaac Newton, where he says, that body being once put  
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\* P. 345 of this Vol.

† Ibid. p. 272.

‡ Ibid. p. 274 and following.

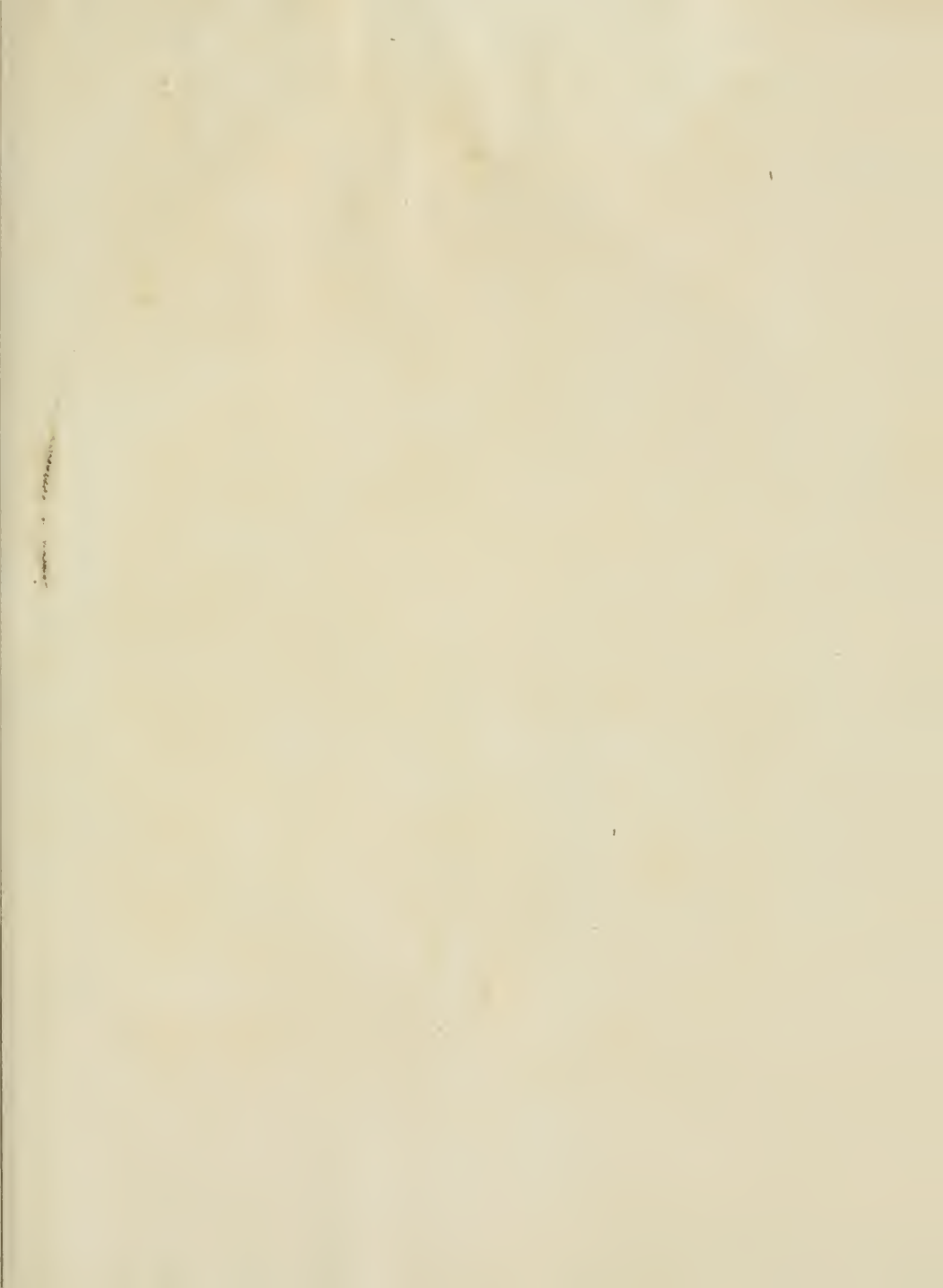
in motion, continues to move itself by a *vis insita*, that is by a power essential to its nature : Whereas I maintain that body, when it is not acted upon by another body, can of itself neither begin nor continue its motion, but must both begin to be moved, and continue in motion, by mind. Now this is a most important point in philosophy and theology ; for, to maintain that motion, which is the grand agent in all the operations of Nature, is begun, or carried on, by body or matter, and not by the Supreme Mind, through the intervention of inferior minds proceeding from him, is absolute materialism \*.

The apology, which I make for my censure of Mr Locke and Sir Isaac Newton, is, that I have derived from Greek authors the philosophy which the Greeks learned from the Egyptians, in whose *wisdom* (or *philosophy*, which is the proper translation of the Greek word σοφία in the Septuagint) Moses was instructed. Now these Greek authors it does not appear that either Mr Locke or Sir Isaac ever studied; otherwise, I am persuaded we should have had from them a philosophy very different from what they have given us : For Mr Locke would have been taught to distinguish betwixt sensations and ideas, and how to give a logical definition of *truth*; and Sir Isaac would have learned that the Greeks knew that body, if it was not moved by the impulse of some other body, could not begin motion, nor, when so impelled, continue it after the impulse had ceased; in short, that body can be moved by mind only : For, that mind moves body the antient philosophers thought they knew by the most certain of all knowledge, consciousness, which informed them that their own bodies were not moved by ethers and subtile fluids, as Sir Isaac supposes, but by their own minds. So that my apology comes to this, that I do not pretend to excel these two authors in genius or invention, but have only copied from Greek authors, whom they had not read, and who got their learning from Egypt, the parent country of all arts and sciences.

\* See what I have said upon this subject, p. 22 & 23 of this Vol.







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